WEST ISLES FEASIBILITY STUDY

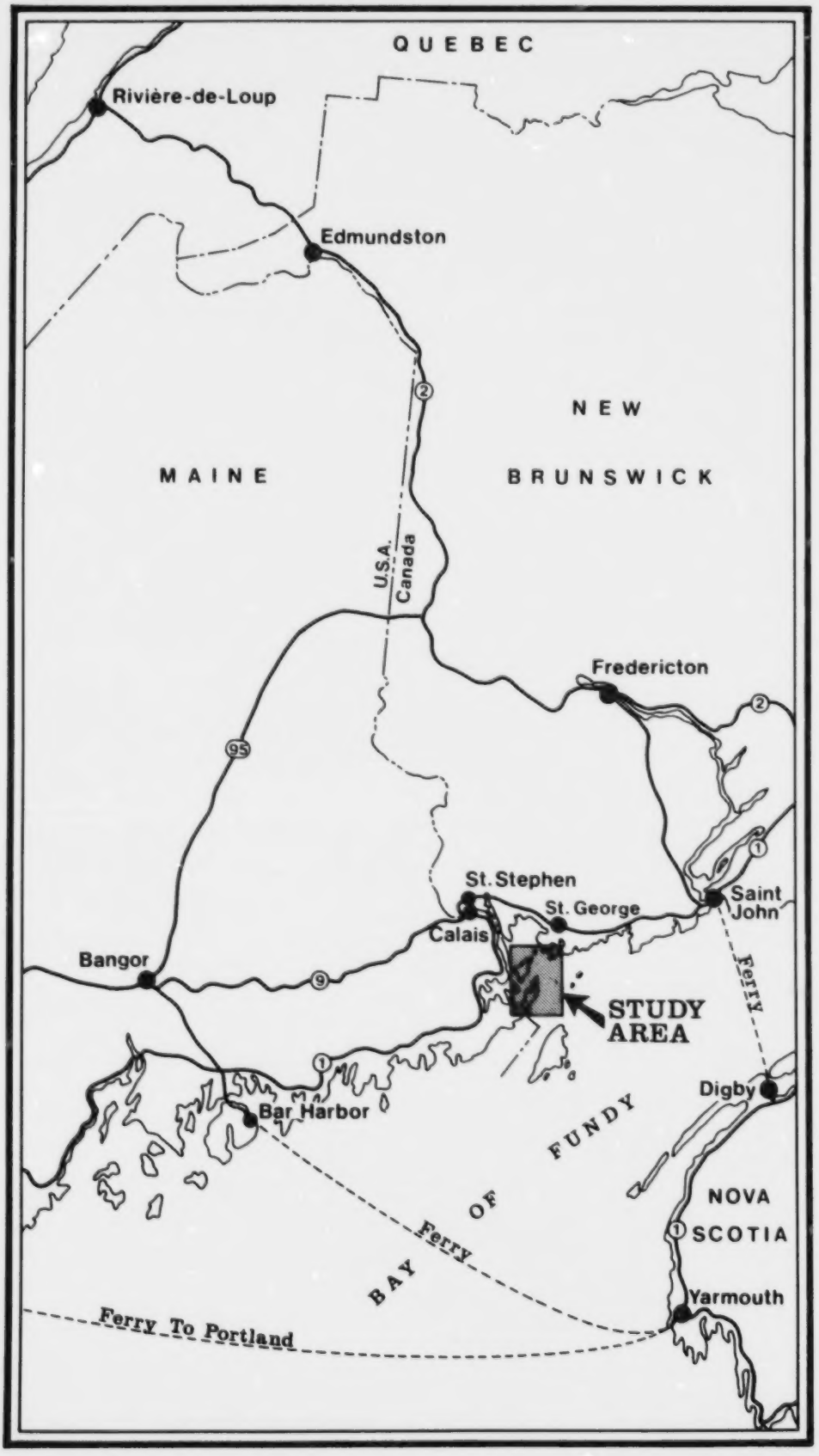
A STUDY TO ASSESS THE FEASIBILITY OF ESTABLISHING A NATIONAL MARINE PARK IN THE WEST ISLES AREA OF THE BAY OF FUNDY, NEW BRUNSWICK

PHASE 1 REPORT HIGHLIGHTS

Environment Canada Parks
Environnement Canada Parcs
Tourism New Brunswick
Tourisme Nouveau-Brunswick

December, 1985

Figure 1 REGIONAL CONTEXT



FOREWORD

The West Isles Feasibility Study was initiated by the federal Minister of the Environment responsible for Parks Canada and the New Brunswick Minister of Tourism in November, 1983. The purpose of the study is to assess the feasibility of establishing a national marine park in the West Isles area of the Bay of Fundy.

The West Isles Feasibility Study is being conducted in three phases. Phase I is an assessment of the technical feasibility of establishing a national marine park in the West Isles area, from the perspective of Environment Canada and Tourism New Brunswick. If Ministers decide to proceed with the study, Phase II would involve extensive public consultation to provide the local public with the opportunity to become directly involved in the process to decide whether or not the West Isles proposal is feasible. The purpose of Phase III would be to analyse the results of the two preceeding phases, and to prepare a final report based on the findings, with recommendations for a future course of action.

These highlights are a summary of the findings of the Phase I Study. In the process of completing Phase I, nine individual studies were conducted to investigate specific aspects of the feasibility assessment, all of which were summarized in the Phase I report. These nine studies were:

1. Recommended Resource Management Guidelines
2. Institutional and Administrative Arrangements
3. Optional Visitor Use Concepts
4. Transportation Analysis
5. Tourism Development Plan
6. Socio-Economic Impact Study
7. Historical/Archaeological Concerns and Opportunities
8. Land Ownership Inventory
9. Analysis and Summary of Public Comments

Copies of these nine studies and the Phase I Report are being placed in local libraries and in federal, provincial and municipal offices in the West Isles area for viewing by the public.

A copy of the Phase I Report can be obtained from the following:

Department of Tourism, Recreation and Heritage*
P.O. Box 12345
Fredericton, New Brunswick
E3B 5C3

Phone (506) 453-2624

Environment Canada,*
Parks
10 Wellington Street
Hull, Quebec
K1A 1G2

Phone (819) 994-7961

* Throughout this report the former titles, Tourism New Brunswick and Parks Canada have been used. The correct titles now are The Department of Tourism, Recreation and Heritage and Environment Canada, Parks.

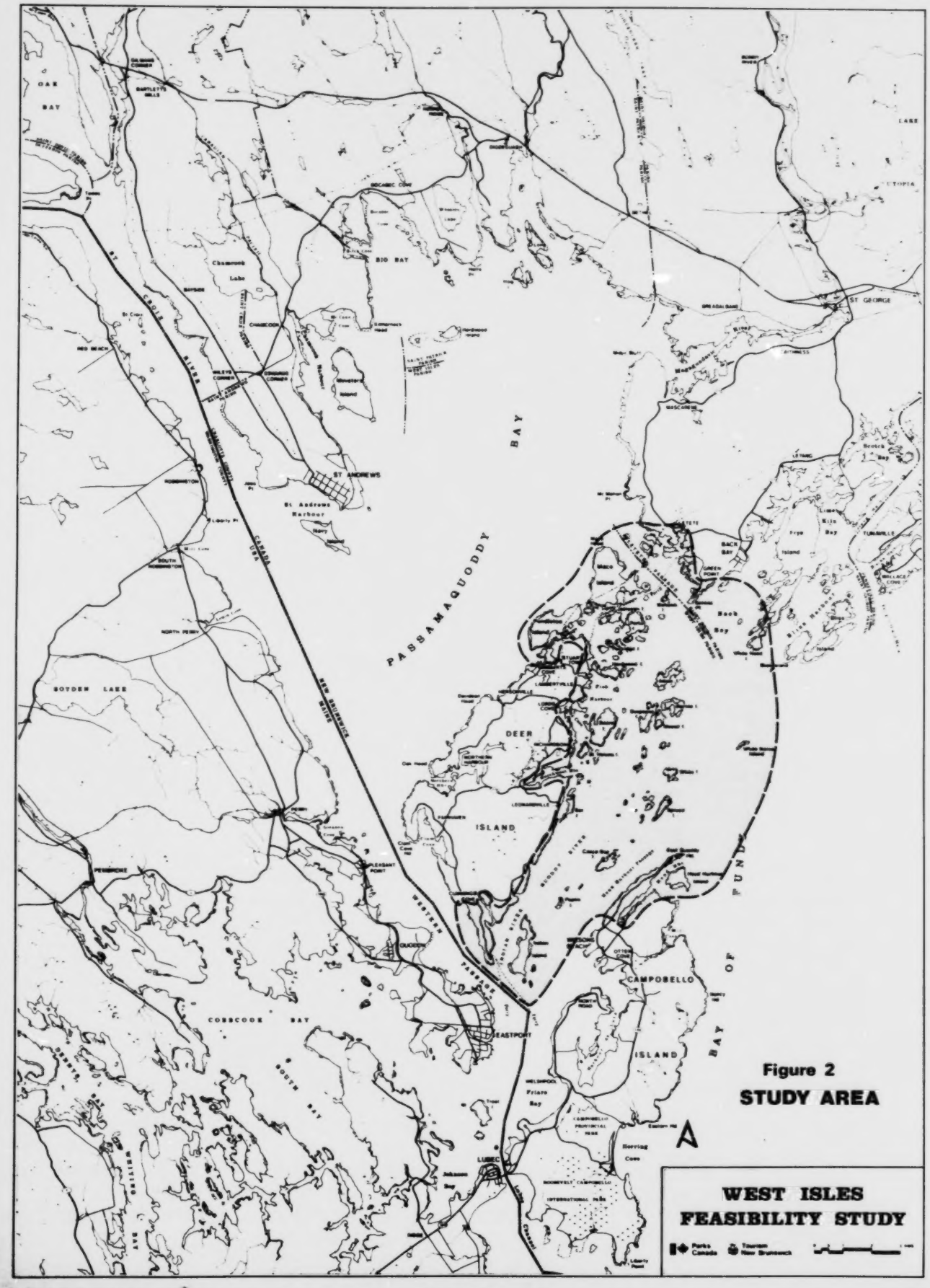


Figure 2

STUDY AREA

WEST ISLES FEASIBILITY STUDY

HIGHLIGHTS OF THE WEST ISLES FEASIBILITY STUDY PHASE I

INTRODUCTION

The West Isles Feasibility Study is the first study of its kind conducted in Canada with the prime objective of determining the feasibility of establishing a national marine park. The West Isles area of the Bay of Fundy in New Brunswick was selected in 1978 by the Governments of Canada and New Brunswick as the first proposal under Parks Canada's new initiative to establish a system of national marine parks representing the marine natural regions of Canada. This study is being conducted in conjunction with the preparation of the federal National Marine Parks Policy. It provides the practical experience necessary to assist in the development of sound and realistic policy guidelines.

This paper presents highlights of the findings of Phase I of the West Isles Feasibility Study. The Study was a joint assessment by Parks Canada and Tourism New Brunswick of all the information considered necessary to determine the technical feasibility of the West Isles proposal. The ultimate assessment of feasibility, however, can only be determined through consultation with the public, particularly those in the West Isles, and through negotiation with other concerned government agencies. The information and recommendations contained in the Phase I report forms the basis for further public consultation, along with the National Marine Park Policy.

THE STUDY AREA

The area known as the West Isles lies at the mouth of Passamaquoddy Bay in southwestern New Brunswick near the entrance to the Bay of Fundy (Figure 1). The study area considered for its national marine park potential is comprised primarily of the marine waters located between Deer Island and Campobello Island (Figure 2), including many of the small and uninhabited offshore islands.

NATURAL AND CULTURAL RESOURCE FEATURES

Marine Resource Features

The West Isles area is recognized as a marine resource of considerable diversity and abundance of both marine habitats and

species. Large volumes of water pass through the West Isles archipelago twice daily, forming some of the highest tides in the world. The nutrient rich waters are subject to constant mixing and turbulence and support one of the most biologically productive areas on the east coast of Canada.

Due to this diversity and abundance, the waters of the West Isles are staging areas of regional and national significance for large numbers of a variety of seabirds and waterfowl during the spring and fall migrations. In addition, the West Isles area is a critical feeding and rearing area of national and international significance for large whales such as the Finback, Minke and occasionally the Humpback and the endangered North Atlantic Right Whale.

Almost all of the species known to occur in the Bay, from the smallest planktonic life forms to the largest whales, can be found in the seaward portion of the West Isles area, especially during the highly productive summer and fall months. Marine species counts indicate that in the West Isles there are known occurences of some 836 invertebrate species, 96 fish species, 20 species of mammals, 70 species of birds and 223 species of aquatic plants.

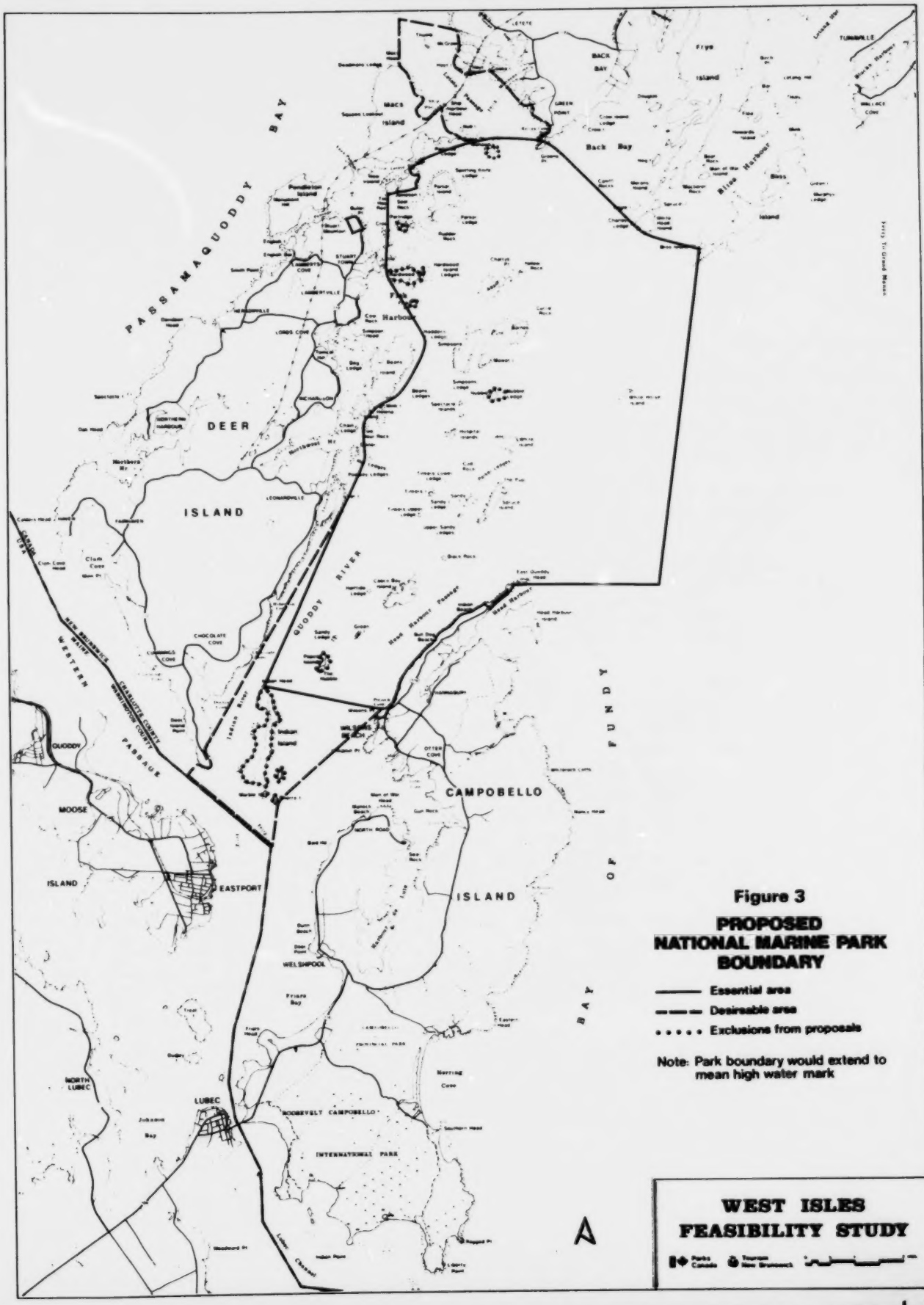
Cultural Resource Features

The West Isles area has a variety of cultural and historic sites of interest, several of which are recognized as having regional significance in Atlantic Canada. The period of human settlement spans over 2,500 years of native occupation, and over 350 years of European settlement. The close relationship between man and the sea has been a strong and consistent theme throughout this period.

The commercial fishing industry has long been the mainstay of the West Isles local economy. Historical documentation indicated that as early as 1808, most residents of Deer Island were commercial fishermen. Of the many species of fish harvested, and of the several harvesting methods utilized, the herring weir fishery has been, and still is, of most economic and cultural importance to the West Isles area, and is most representative of the historic local relationship between man and the sea. At a national level, the West Isles area has the highest concentration of herring weirs in Canada.

PROPOSED PARK BOUNDARIES

From within the study area of approximately 110 square kilometers, boundaries for a possible national marine park in the West Isles have been proposed, primarily on the basis of natural resource


PASSAMAQUODDY BAY
DEER ISLAND
QUODDY RIVER
BACK BAY
Back Bay
Bliss Harbour
Fryes Island
TUMMERLE
Cow Harbour
CAMPOBELLO ISLAND
BAY OF FUNDY
QUODDY
MOOSE ISLAND
EASTPORT
WELSHPOOL
NORTH LUBEC
LUBEC
ROOSEVELT CAMPOBELLO INTERNATIONAL PARK
WESTERN PASSAGE
CHARLOTTE COUNTY
WASHINGTON COUNTY
NEW BRUNSWICK
MAINE
Figure 3
PROPOSED NATIONAL MARINE PARK BOUNDARY
Essential area
Desireable area
Exclusions from proposals
Note: Park boundary would extend to mean high water mark
WEST ISLES FEASIBILITY STUDY

features and values considered essential or desirable for inclusion within the park. The proposed park boundary shown on Figure 3 defines a core park area that represents the minimum area considered essential for a viable national marine park. This core area is approximately 55 square kilometers in size. Two additional areas have also been defined to the north (3.4 sq. km.) and south (6.5 sq. km.) of the core park area that, while not essential, would be desirable for inclusion within the park.

PUBLIC COMMENTS

In June 1984, open houses and a general public meeting were held in the West Isles area to discuss the purpose and organization of the feasibility study, to correct existing, or obtain further, information, and to identify issues and concerns from the perspective of the local public to be considered during Phase I of the Study.

It was found that while the local public generally felt the West Isles area had many special values that warranted conservation, there were doubts that a national marine park was the most appropriate way to achieve conservation objectives and permit the continued viability of the commercial fishery and maintain local lifestyles. On the other hand, some people felt that a park could help to mitigate negative environmental effects of proposed commercial developments in the area.

Major concerns centred upon the impact of a park and its management practices upon the commercial fishery. Of particular importance was the potential effect of increased boat traffic and noise on fish movement. Many fishermen stressed their involvement in the park decision-making process was necessary to find solutions to these problems. Before a final decision on a national marine park in the West Isles, they sought guarantees the commercial fishery would continue, they would be a part of the decision-making process for the park and they would not be faced with new regulations because of the park.

There were concerns about the potential impact of numerous visitors upon the lifestyle of local residents, such as increased traffic congestion, vandalism, littering and crime. Fog, storms, cold and turbulent waters were considered potential dangers for visitors.

The potential for expropriation for park purposes was a great fear and there was concern also about the introduction of new land use controls and zoning, land speculation, and associated increases in land prices and taxes.

It was recognized that the proposed national marine park could assist in expanding the local economy. Local people felt that if a park was established they should be able to participate regularly in the decision-making process for the park planning and management.

Phase II of the feasibility study will be devoted to consultation with the public on the findings of Phase I.

RESOURCE PROTECTION AND CONSERVATION

An important element in the assessment of the technical feasibility of establishing a national marine park in the West Isles is the formulation of management guidelines for the protection and conservation of its natural resources. It is recognized that the most significant resource concern in the West Isles is the management of the commercial fishery. Other important concerns include the management of water quality, domestic resource harvesting, commercial shipping and sport hunting.

Commercial Resource Harvesting

The area of the proposed national marine park in the West Isles supports a valuable commercial fishery based mainly on herring, lobster and groundfish.

Commercial fishing would continue in a national marine park. It is Parks Canada's position that national marine parks and commercial fishing are compatible and indeed share a common concern for the long term conservation of marine resources. It is also the position of the Province of New Brunswick that the establishment of a national marine park must not have a negative impact on the commercial fishery.

Given the above, the following general principles would apply to the management of the commercial fishery within a national marine park.

- commercial fishing would continue in a national marine park in the West Isles and would continue to be managed by the Department of Fisheries and Oceans (DFO) under the applicable regulations;

- a fisheries management plan for the national marine park would be jointly prepared and approved by DFO and Parks Canada, in consultation with the local fishing industry. It would list specific management guidelines related to park management matters and the interaction between the management and operation of a national marine park and the commercial fishery.

The following recommended guidelines are specific to each individual fishery in the West Isles.

The Herring Fishery

The commercial fishery for herring, using weirs, seines and gillnets would continue in a national marine park, subject to the regulations of DFO. There would be no limits imposed by Parks Canada on access to this fishery.

The Groundfish and Scallop Fisheries

The groundfish and scallop fisheries would continue in a national marine park. There is a concern that potential environmental impacts on marine ecosystems and species may be be caused by harvesting methods used in these fisheries. Where adverse effects are suspected, monitoring studies would be conducted to determine the extent of this impact. If such research indicates that significant adverse impacts are occuring, management solutions would be developed in consultation with the fishing industry to minimize the impact.

The Lobster Fishery

The lobster fishery would continue in a national marine park.

The Clam Fishery

Commercial and domestic fisheries for clams would continue in a national marine park.

Aquaculture

The aquaculture industry would continue to develop and evolve within a national marine park at sites approved by Parks Canada, DFO and the Federal Department of Transport (DOT), and in accordance with guidelines which ensure the orderly development of the industry.

Potential New Fisheries

It is not the intention for a national marine park to interfere with the evolution or future viability of the commercial fishing industry. New fisheries may be approved in a national marine park subject to Parks Canada's objectives for the park, in consultation with the local fishing industry and DFO. Stock assessments and environmental impact studies would have to be completed before approval.

Water Quality

The existing high level of water quality would be maintained and Parks Canada would work with other federal and provincial government agencies to monitor and mitigate any internal or external threats to water quality.

Local Non-Commercial Resource Harvesting

Local residents could continue to harvest marine organisms on a non-commercial basis in a national marine park.

Commercial Shipping

No additional regulations regarding commercial shipping are considered necessary at present.

Sport Hunting

Sport hunting would not be permitted within the boundaries of a national marine park.

VISITOR UNDERSTANDING, APPRECIATION AND ENJOYMENT

Three possible options for visitor use and park development have been prepared to illustrate various alternatives of what a national marine park could look like in the West Isles area.

Many factors were considered in developing the three activity options, including potential locations for visitor use activities, the location of established communities and industry, and the characteristics of the marine resource itself. Moreover, the consideration of the potential impact of a national marine park on the adjacent communities and the lifestyle of local residents largely accounts for the major differences in the designs of the visitor use options.

The most distinguishing feature among the three options is the different geographic distribution of the recommended recreational facilities and services:

Option 1

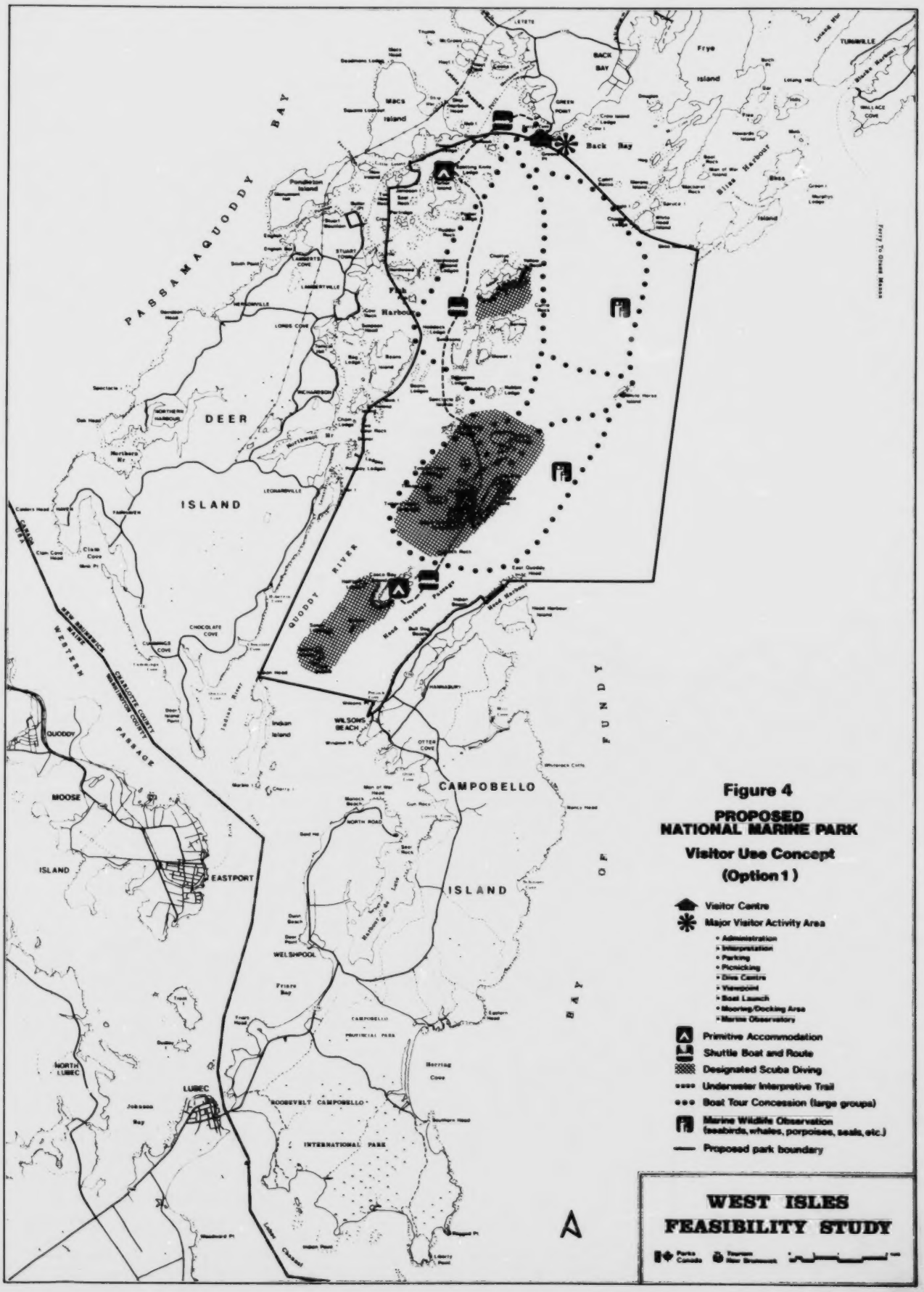
In this option (Figure 4), the park's Visitor Reception Centre (VRC) and Administration complex, which would act as the central focus of park activities, is located at Green Point on the mainland. The majority of park visitors would arrive at the VRC before visiting any other portion of the park, and would embark on a boat tour through the park or take a shuttle boat service to day-use and primitive camping facilities on the offshore islands. Areas for SCUBA diving would be designated. In addition to parking and picnicing facilities, it is proposed that the VRC itself would contain an underwater observatory, a viewpoint, interpretive displays, a dive centre and a wharf for all boat tours, shuttle boats and private craft.

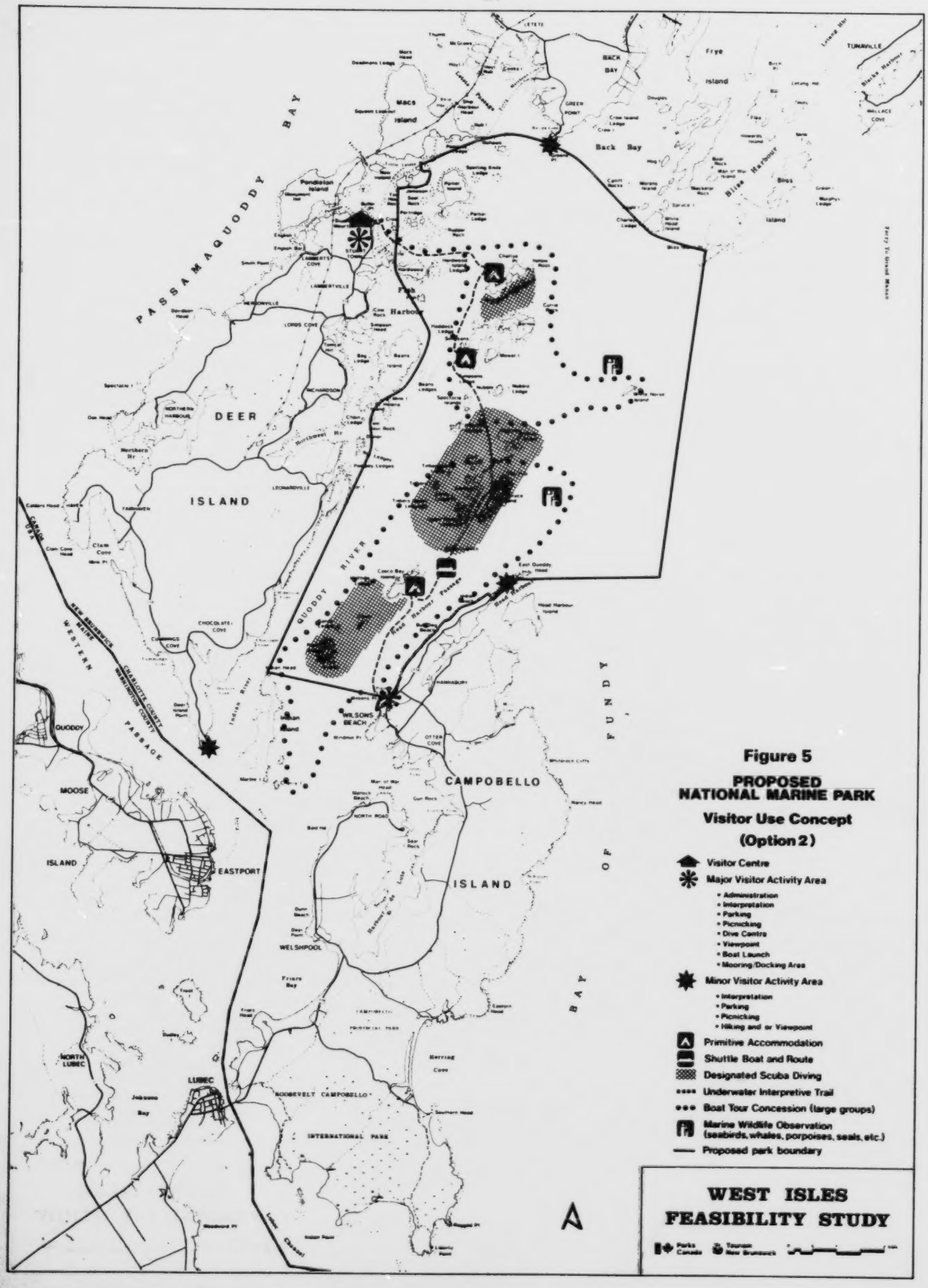
Option 2

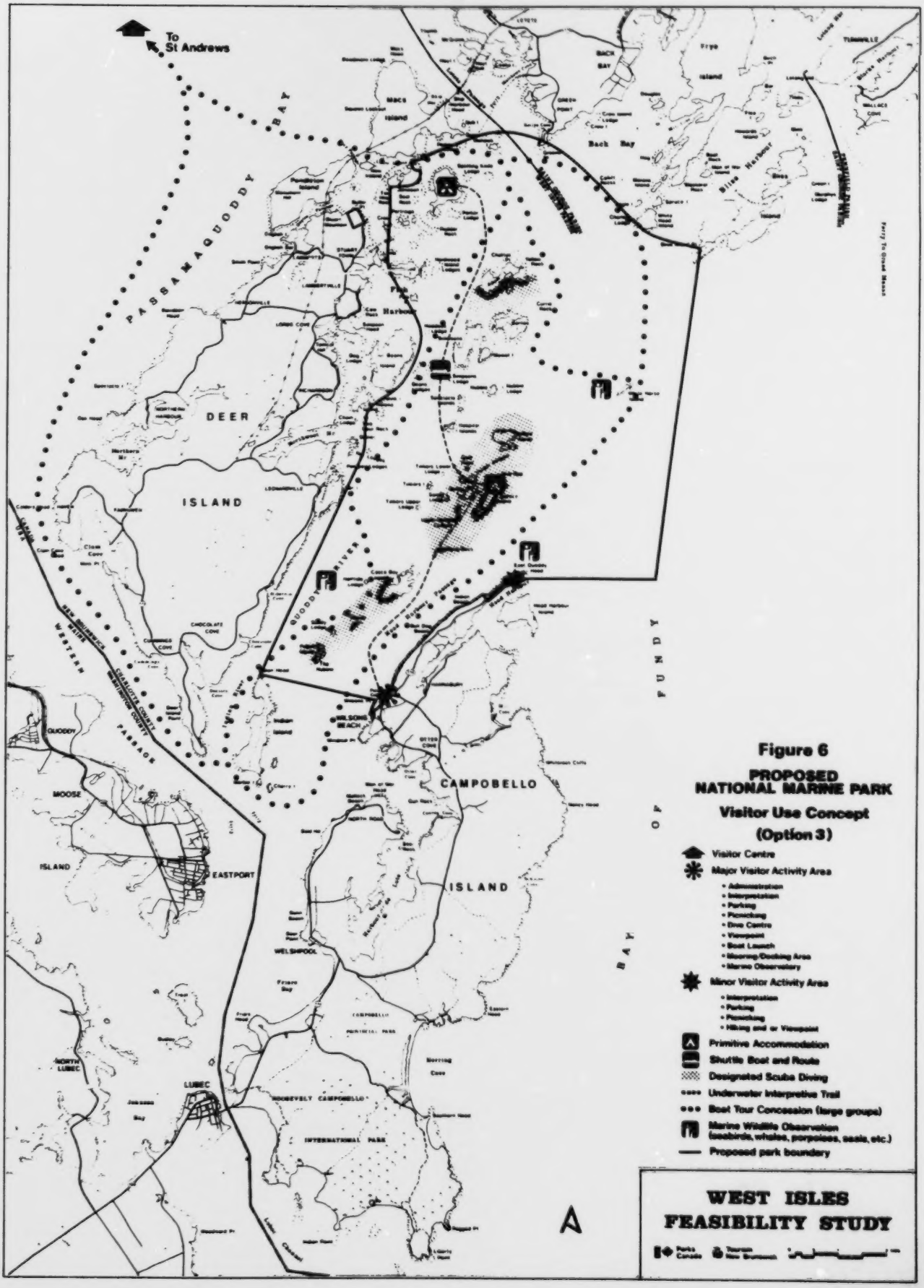
This option (Figure 5) is characterized by a decentralization of smaller scale facilities and services in a number of locations. The main VRC and park administration complex would be located on the northern tip of Deer Island. The VRC is similar to that described for Option 1, except there would be no marine observatory. In contrast to Option 1, development on Green Point would be limited to a small visitor activity area, consisting of facilities for parking and picnicing with a viewpoint and interpretive displays. A small visitor use area, similar to that on Green Point, would also be provided on Deer Island Point. Development on Campobello Island would include a small visitor activity area on East Quoddy Head and a major visitor use facility near Wilsons Beach. Use of the offshore islands would be similar to that described for Option 1.

Option 3

The principle feature that distinguishes Option 3 (Figure 6) from the other two options is the location of the VRC in the town of St. Andrews. The majority of park visitors would travel to St. Andrews first before proceeeding to the marine park by boat. This option takes maximum advantage of the existing tourism infrastructure, particularly access and restaurant and accomodation services, that already exists in St. Andrews. In this option, there would be no park development on the mainland at Green Point or on Deer Island. While the VRC would be located in St. Andrews, the park administration complex and a small visitor use area would be located near Wilsons Beach with a small visitor use area also located at East Quoddy Head. This option provides for the same visitor use opportunities on and among the offshore islands as described in the other two options.


PASSAMAQUODDY BAY
DEER ISLAND
QUODDY RIVER
CAMPOBELLO ISLAND
MOOSE ISLAND
EASTPORT
LUBEC
NORTH LUBEC
WELSHPOOL
WILSONS BEACH
QUODDY
CHOCOLATE COVE
BACK BAY
Back Bay
Head Harbour
Head Harbour Passage
Harbour
Frye Island
Indian Island
Johnson Bay
Friars Bay
Herring Cove
Western Passage
New Brunswick
Maine
Charlotte County
Washington County
BAY OF FUNDY
CAMPOBELLO PROVINCIAL PARK
ROOSEVELT CAMPOBELLO INTERNATIONAL PARK
Ferry To Grand Manan
Figure 4
PROPOSED NATIONAL MARINE PARK
Visitor Use Concept
(Option 1)
Visitor Centre
Major Visitor Activity Area
• Administration
• Interpretation
• Parking
• Picnicking
• Dive Centre
• Viewpoint
• Boat Launch
• Mooring/Docking Area
• Marine Observatory
Primitive Accommodation
Shuttle Boat and Route
Designated Scuba Diving
Underwater Interpretive Trail
Boat Tour Concession (large groups)
Marine Wildlife Observation (seabirds, whales, porpoises, seals, etc.)
Proposed park boundary
WEST ISLES
FEASIBILITY STUDY


PASSAMAQUODDY BAY
DEER ISLAND
QUODDY RIVER
WESTERN PASSAGE
QUODDY
MOOSE ISLAND
EASTPORT
LUBEC
NORTH LUBEC
WELSHPOOL
CAMPOBELLO ISLAND
WILSONS BEACH
ROOSEVELT CAMPOBELLO INTERNATIONAL PARK
BAY OF FUNDY
Back Bay
Frye Island
TUNAVILLE
Figure 5
PROPOSED NATIONAL MARINE PARK
Visitor Use Concept
(Option 2)
Visitor Centre
Major Visitor Activity Area
• Administration
• Interpretation
• Parking
• Picnicking
• Dive Centre
• Viewpoint
• Boat Launch
• Mooring/Docking Area
Minor Visitor Activity Area
• Interpretation
• Parking
• Picnicking
• Hiking and or Viewpoint
Primitive Accommodation
Shuttle Boat and Route
Designated Scuba Diving
Underwater Interpretive Trail
Boat Tour Concession (large groups)
Marine Wildlife Observation (seabirds, whales, porpoises, seals, etc.)
Proposed park boundary
WEST ISLES FEASIBILITY STUDY


To St Andrews
PASSAMAQUODDY BAY
DEER ISLAND
CAMPOBELLO ISLAND
MOOSE ISLAND
EASTPORT
LUBEC
WELSHPOOL
QUODDY
BAY OF FUNDY
Figure 6
PROPOSED NATIONAL MARINE PARK
Visitor Use Concept
(Option 3)
Visitor Centre
Major Visitor Activity Area
• Administration
• Interpretation
• Parking
• Picnicking
• Dive Centre
• Viewpoint
• Boat Launch
• Mooring/Docking Area
• Marine Observatory
Minor Visitor Activity Area
• Interpretation
• Parking
• Picnicking
• Hiking and or Viewpoint
Primitive Accommodation
Shuttle Boat and Route
Designated Scuba Diving
Underwater Interpretive Trail
Boat Tour Concession (large groups)
Marine Wildlife Observation (seabirds, whales, porpoises, seals, etc.)
Proposed park boundary
WEST ISLES
FEASIBILITY STUDY

APPROXIMATE COSTS OF PARK DEVELOPMENT, OPERATIONS AND MAINTENANCE

The approximate capital and operations and maintenance costs, as well as manpower requirements, have been estimated on the basis of the three visitor use options. The capital and operations and maintenance (O&M) dollars (1984) are quoted below in '000s and are cumulative for the first ten years of park establishment. The manpower requirements reflect anticipated staffing levels with the park fully operational (by Year 10). They are quoted in person-year (PY) equivalents, recognizing that some of the O&M positions could be put out to contract.

	Option 1	Option 2	Option 3
Capital ($000)	13,341	14,514	13,943
O&M ($000)	7,277	7,693	5,707
PYs	26	31	26

ESTIMATED NUMBERS OF PARK VISITORS

The visitor use estimates vary considerably with each option, since the geographic distribution of facilities would largely determine park visitation figures. For example, if facilities were located on Campobello Island, which already attracts 135,000 visitors a year, or in St. Andrews, which attracts about 70,000 visitors, park visitation would be much higher than if facilities were only provided on Green Point.

Estimates of park visitation by the tenth year of park establishment, when park development should have been completed, are provided below for the three options. What is perhaps more important, however, than just park visitation is the net impact of this visitation on regional tourism in the Passamaquoddy Bay region. This "incremental visitation" refers to the number of people attracted to the region by the park who would not have come otherwise.

	Option 1	Option 2	Option 3
Park Visitation by Year 10	51,000	118,300	141,300
Incremental Visitation by Year 10	30,000	25,700	31,200

MANAGEMENT OF PARK VISITORS

Parks Canada has a dual mandate to meet in the management and operation of national parks and national marine parks: to protect

and conserve the parks natural resources, and to encourage and provide for visitor understanding, appreciation and enjoyment. In national marine parks, the situation would be much more complex than in their counterparts on land due to the continuation of such activities as commercial fishing. It is essential to the continued viability of the commercial fishery in the West Isles that it not be hindered by the activities of park visitors.

Recommended management guidelines suggest ways in which the activities of park visitors would be managed to protect the resource, provide for a positive visitor experience and minimize disruption to the operations of the commercial fishery. These guidelines refer to recreational and tour boating, SCUBA diving, recreational fishing, the placement of park facilities and a behaviour code for observing marine mammals.

COOPERATIVE MANAGEMENT

Resource management in the marine and coastal environments of Canada is characterized by a multiplicity of jurisdictions between many government departments at both the federal and provincial levels. While Parks Canada would become the lead agency responsible for overall park management, it is recognized that many of those agencies which currently have management responsibilities in the area would retain those responsibilities and continue to perform their respective funtions. Of particular importance, the federal Department of Fisheries and Oceans (DFO) would retain the responsibility for the management of fisheries and fish resources, and the federal Department of Transport (DOT) would continue to regulate commercial shipping and marine transportation in general.

A cooperative management system would be necessary to provide for the coordination and cooperation of these and other agencies, and the local public, in the management of a national marine park. To this effect, two committees are proposed:

1) a national marine park public consultation committee;

2) a national marine park interdepartmental coordination committee.

The public consultation committee would provide opportunities on a regular basis for the local public to participate in the decision-making process regarding park management and operation. This committee would consist of members of the local public, special interest groups and organizations that have a direct interest in how the park would be managed.

Parks Canada, DFO and DOT would be the interdepartmental coordination committee.

In addition, a less formal regional intergovernmental liaison function would be put in place for consultation with other government agencies.

REGIONAL INTEGRATION

Economic and Social Impacts

National parks or national marine parks, regardless of where they may be established in Canada, cannot exist in isolation from their surrounding region. By their very nature, national marine parks will be much more closely integrated with regional community life than their counterparts on land, especially given the fact that economic activities such as commercial fishing would continue within the parks boundaries. The ways in which a national marine park would affect or interact with the surrounding region are either economic or social in nature. These effects would also vary considerably with each visitor use option.

The establishment of a national marine park in the West Isles area would have a positive economic impact on the surrounding region.

Economic impacts to the region would be mainly from three different sources:

- capital expenditures during park development;
- operation and maintenance expenditures, including park salaries and wages; and
- purchases by park visitors and other tourists.

One of the greatest impacts would be due to local employment during park development and its long term operation. It is estimated that 100% of construction jobs could be filled from the Charlotte County labour force, that is between 146 and 164 jobs, depending on the park option which would be chosen. Most jobs would be seasonal during the ten years of park development. The operation of the park would provide between 42 and 48 jobs annually, most seasonal, of which about 70% could be filled from the local labour force.

Where the economic benefits of park establishment would be felt on a regional, and even a provincial level, the social effects would, by and large, be restricted to the area in the immediate vicinity of the park, that is the West Isles and Campobello areas, and St. Andrews in Option 3. Local residents have expressed concern about a number of issues, including land acquisition, the potential for increased traffic congestion, crime, and curtailment of their traditional rights and privileges in their use of the West Isles area.

Any privately held lands desired for park purposes would be acquired on a willing seller - willing buyer basis. Lands for park purposes would not be expropriated.

The recreational use of park resources by local residents would be encouraged. Parks Canada would make every attempt to incorporate traditional recreational uses of park waters and offshore islands into its park management policies.

It is not anticipated that the potentially negative aspects of increased visitation to the area, would materialize to any great extent in the West Isles area. Parks Canada would cooperate with other federal and provincial agencies within the proposed park. Parks Canada would also cooperate with law enforcement agencies where possible to mitigate problems outside the park.

The issue of traffic congestion is closely tied to the present and future capacity of the Deer Island - Letete ferry system. It is recognized that any significant increase in traffic volumes above current levels would require improvement of the existing service.

Regional Tourism Development

From the perspective of the New Brunswick Department of Tourism, Recreation and Heritage, a national marine park in the West Isles could act as the central focus of a regional tourism destination area that would encompass the entire Passamaquoddy Bay region. As part of the West Isles Feasibility Study, a regional tourism development plan was prepared that recommended a number of additional attractions that could be established in the region to compliment the activities and program of a national marine park.

CONCLUSION AND RECOMMENDATIONS

The conclusion of Phase I of the West Isles Feasibility Study is that, from the perspective of Parks Canada and Tourism New Brunswick, the proposal to establish a national marine park in the West Isles is technically feasible. There are, however, a number of feasibility criteria that have yet to be completely satisfied. Some of these unknowns will be clarified through further study and discussion with other government agencies. Most, however, will not be clarified until there is further public consultation, and still others will likely require actual park management experience before suitable answers are found. The results of Phase I present a reasonable basis upon which to undertake further consultation with the public and to work toward a proposal satisfactory to all concerned.

This study has been undertaken based on the draft National Marine Parks Policy. This draft policy was originally developed in 1983 and has been the subject of national consultations involving other governments, interested groups, and individuals, including representatives of the West Isles Area. An approved policy for Canada's national marine parks will be necessary as a basis for further public consultations on a national marine park proposal in the West Isles area.

In the light of these general conclusions, the following recommendations are made.

Recommendations:

1) That Phase II public consultation for the West Isles Feasibility Study not proceed until a National Marine Parks Policy for Canada is approved by the federal government.

2) That the report of Phase I of the West Isles Feasibility Study be made available to the public, particularly the residents of coastal Charlotte County, for their information and consideration.

3) That once a National Marine Parks Policy is approved, Parks Canada and Tourism New Brunswick proceed with Phase II of the feasibility study to enable the public to express their opinions and concerns regarding the proposal for a national marine park.

4) That an independent review board be appointed jointly by the two governments to: i) conduct the public consultations on the feasibility of a national marine park in the West Isles area; ii) to report to the governments on the results of the consultations; and iii) to recommend further action.

APR 8 1986

WEST ISLES FEASIBILITY STUDY

A STUDY TO ASSESS THE FEASIBILITY OF
ESTABLISHING A NATIONAL MARINE PARK
IN THE WEST ISLES AREA OF
THE BAY OF FUNDY, NEW BRUNSWICK

PHASE 1 REPORT

Parks Canada Parcs Canada

Tourism New Brunswick Tourisme Nouveau-Brunswick

THE WEST ISLES FEASIBILITY STUDY

A Study to Assess the Feasibility
of Establishing a National Marine Park
in the West Isles Area of the Bay of Fundy,
New Brunswick

PHASE I REPORT

PARKS CANADA/TOURISM NEW BRUNSWICK

December, 1985

FOREWORD

The West Isles Feasibility Study was initiated by the federal Minister of the Environment responsible for Parks Canada and the New Brunswick Minister of Tourism in November, 1983. The purpose of the study is to assess the feasibility of establishing a national marine park in the West Isles area of the Bay of Fundy.

The West Isles Feasibility Study is being conducted in three phases. Phase I is an assessment of the technical feasibility of establishing a national marine park in the West Isles area, from the perspective of Parks Canada and Tourism New Brunswick. If Ministers decide to proceed with the study, Phase II would involve extensive public consultation to provide the local public with the opportunity to become directly involved in the process to decide whether or not the West Isles proposal is feasible. The purpose of Phase III would be to analyse the results of the two preceeding phases, and to prepare a final report based on the findings, with recommendations for a future course of action.

This report presents the findings of Phase I of the study. In the process of completing Phase I, nine individual studies were conducted to investigate specific aspects of the feasibility assessment, all of which are summarized in the Phase I report. These nine studies include the following:

1. Recommended Resource Management Guidelines
2. Institutional and Administrative Arrangements
3. Optional Visitor Use Concepts
4. Transportation Analysis
5. Tourism Development Plan
6. Socio-Economic Impact Study
7. Historical/Archaeological Concerns and Opportunities
8. Land Ownership Inventory
9. Analysis and Summary of Public Comments

Copies of the above reports are available upon request from the following addresses:

Department of Tourism,
Recreation and Heritage*
P.O. Box 12345
Fredericton, New Brunswick
E3B 5C3
Phone: (506) 453-2624

Parks Canada
10 Wellington Street
Hull, Quebec
K1A 1G1
Phone: (819) 994-2696

* Throughout this report the former title Tourism New Brunswick has been used. The correct title is now the Department of Tourism, Recreation and Heritage.

TABLE OF CONTENTS

		Page
1.0	INTRODUCTION	1
	1.1 The National Marine Parks Initiative in Canada	1
	1.2 The Role of a National Marine Park in the West Isles	2
2.0	THE WEST ISLES FEASIBILITY STUDY: ITS ORIGIN AND PURPOSE	6
	2.1 The Original Pilot Study	6
	2.2 Study Methodology	8
3.0	THE WEST ISLES STUDY AREA AND PROPOSED PARK BOUNDARY OPTIONS	10
	3.1 The Regional Context	10
	3.2 The Natural Marine Heritage	12
	3.2.1 Specific Resource Features Recommended for Inclusion Within the Proposed Park	19
	3.3 The Cultural Marine Heritage	21
	3.4 Proposed Park Boundaries	27
4.0	A SUMMARY OF PUBLIC COMMENTS	31
	4.1 Major Issues and Concerns	32
5.0	RESOURCE PROTECTION AND CONSERVATION	37
	5.1 Commercial Resource Harvesting	37
	5.1.1 General Principles	38
	5.1.2 The Herring Fishery	39
	5.1.3 The Groundfish Fishery	43

Page

5.1.4 The Scallop Fishery 44
5.1.5 The Lobster Fishery 46
5.1.6 The Clam Fishery 47
5.1.7 Aquaculture 48
5.1.8 Potential New Fisheries 50
5.2 Water Quality 50
5.3 Local Non-Commercial Resource Harvesting ... 53
5.4 Commercial Shipping 54
5.5 Sport Hunting 55

6.0 VISITOR UNDERSTANDING, APPRECIATION AND ENJOYMENT 57
6.1 Visitor Use and Park Development Options ... 57
Option 1 59
Option 2 61
Option 3 64
6.2 Approximate Costs of Park Development, Operations and Maintenance 66
6.3 Estimated Numbers of Park Visitors 66
6.4 Management of Park Visitor Activities 76
6.4.1 Recreational Boating 76
6.4.2 Recreational SCUBA Diving 79
6.4.3 Recreational Fishing 81
6.4.4 Placement of Park Facilities 82
6.4.5 Marine Mammal Observation 83

7.0 COOPERATIVE MANAGEMENT 85
7.1 The Need for Cooperative Management 85
7.2 The Identification and Role of Lead Agencies 86
7.3 Impact on the Existing Administrative Regime 89

Page

7.4 Alternative Approaches to Cooperative Management 90
7.5 A Proposed Cooperative Management System ... 92

8.0 REGIONAL INTEGRATION 99
8.1 Economic Impacts 100
8.2 Social Impacts 108
8.3 Impacts on Transportation 115
8.3.1 Letete/Deer Island Ferry System 116
8.3.2 Road System in the West Isles Area .. 117
8.3.3 Island Bridge Option 118

9.0 REGIONAL TOURISM DEVELOPMENT 120
9.1 Goals for Tourism Development 121
9.2 The Tourism Development Plan 122
9.2.1 Tourist Attractions and Services 124
9.2.1.1 Proposed Attractions 124
9.2.1.2 Support Services and Infrastructure 129
9.2.1.3 Education and Training Requirements 135

10.0 ASSESSMENT OF FEASIBILITY 137
10.1 Assessment of Feasibility Criteria 137

11.0 CONCLUSION AND RECOMMENDATIONS 154

SELECT BIBLIOGRAPHY 156

APPENDIX 1: Proposed Park Purpose and Objectives 162
APPENDIX 2: A Definition of Conservation 166
APPENDIX 3: Federal and Provincial Legislation Pertinent to the Administration and Management of National Marine Parks 168

List of Figures

		Page
1	Marine Natural Areas of Canadian Significance (NACS) in the Bay of Fundy area	7
2	Regional Context	11
3	West Isles Study Area	13
4	Oceanography	15
5	Marine and shorebird nesting and feeding areas.	17
6	Marine mammals	18
7	Sites of cultural and historic interest	23
8	Proposed national marine park boundary	28
9	Visitor Use - Option 1	60
10	Visitor Use - Option 2	62
11	Visitor Use - Option 3	65
12	Optional organizational structures for cooperative management	96

1.0 INTRODUCTION

1.1 The National Marine Parks Initiative in Canada

The West Isles Feasibility Study is the first study of its kind conducted in Canada with the prime objective of determining the feasibility of establishing a national marine park. The West Isles area of the Bay of Fundy in New Brunswick was selected in 1983 by the governments of Canada and New Brunswick as the first proposal under Parks Canada's new initiative to establish a system of national marine parks representing the marine natural regions of Canada. Accordingly, this study is being conducted in conjunction with the formulation of the draft National Marine Parks Policy to provide the practical experience necessary to assist in the development of sound and realistic policy guidelines.

This report presents the findings of Phase I of the West Isles Feasibility Study, the joint assessment by Parks Canada and Tourism New Brunswick of all the information considered necessary to determine the technical feasibility of the West Isles proposal from the perspective of both governments. The ultimate assessment of feasibility, however, can only be determined through consultation with the public, particularly those in the West Isles, and negotiation with other concerned government agencies. The information and recommendations contained in this report would form the basis for any further public consultation.

1.2 The Role of a National Marine Park in the West Isles

The West Isles area has an extremely diverse and unique assemblage of natural and cultural marine resource features and values that warrant protection and conservation. This first phase of the study has determined that the establishment of a national marine park in the West Isles is feasible from a technical point of view and could be successfully managed to achieve its purpose of protecting and conserving this marine environment for all time, and for the understanding, appreciation and enjoyment by present and future Canadians and other visitors.

The fact that the West Isles still has a high level of environmental quality is a testament to the careful use by residents. The future will bring changes, and nowhere is this change likely to happen more quickly than in the coastal and marine environments. Past investigation of the tidal power potential in Passamaquoddy Bay and the more recent proposals to develop an oil refinery or a coal fired generating station in Eastport, are indicative of the kinds of major changes which could conceivably occur in years to come.

Protected status as a national marine park under the National Parks Act would preclude the extraction of non-renewable resources. Recognition of the West Isles as a marine Natural Area of Canadian Significance has already played a role in influencing the decision not to proceed with the Eastport oil refinery proposal. Once an area has such protection, ongoing and comprehensive management is required to ensure the long term conservation of those living and renewable resources within park boundaries. In

the context of marine park management, conservation can be defined as the management of human use of renewable natural resources so that they may continue to yield the greatest sustainable benefit to present generations while maintaining their potential to meet the needs and aspirations of future generations (see Appendix 2 for a more complete definition). Such human use could include commercial fishing, scientific research and recreational activity.

The commercial fisheries in Canada are currently managed in accordance with this conservation principle and are therefore considered a compatable activity within national marine parks, provided that the purpose and objectives of the park could be achieved. The proposal for a national marine park in the West Isles, described herein, recognizes the cultural and economic value of the commercial fishery. The fishery would continue in a national marine park and would continue to be managed by the Department of Fisheries and Oceans (DFO). The Province of New Brunswick has maintained the position throughout this study that the establishment of a national marine park would not have a negative impact on the commercial fishery. The recommended resource management guidelines and the optional visitor use concepts described in this report have been prepared in such a way as to eliminate or minimize any potential interference with the commercial fishery.

The feasibility study has also proposed a cooperative approach to marine park management. This would be necessary to coordinate effectively the management efforts of DFO and the federal Department of Transport (DOT) with those of Parks Canada and other government agencies. This proposal also incorporates a consultation committee to enable representatives of the local public to actively participate in the park planning and management process.

Accordingly, the six primary objectives for a national marine park in the West Isles would be:

1. To protect and conserve the productive and diverse marine ecosystem of the West Isles as a representative example of the Bay of Fundy Marine Region, recognizing that the area supports a viable commercial fishery of significant importance to the local and provincial economies and which would continue to operate within the proposed national marine park.

2. To protect and conserve the regionally significant cultural heritage resources associated with the occupation by prehistoric and historic peoples, and features representing early European trading, fishing, navigation, and shipbuilding activities.

3. To provide opportunities for the understanding, appreciation, and enjoyment of the natural and cultural heritage resources and processes associated with the unique natural and cultural mosaic of the West Isles.

4. To integrate and coordinate the protection and management of the proposed national marine park in the West Isles with the surrounding region in a manner that provides positive social, economic, and environmental benefits.

5. To provide opportunities for the public of the West Isles area to be involved in the planning and management of the proposed national marine park.

6. To cooperatively manage national marine park resources with other federal and provincial government agencies, in particular with the federal departments of Fisheries and Oceans and Transport, each of which would retain their traditional jurisdictions over the management of fisheries and fish resources, and marine transportation, respectively.

A complete description of the proposed park purpose and objectives is found in Appendix 1.

The natural and cultural values that Parks Canada and Tourism New Brunswick have recognized in the West Isles are the same as those recognized by the local residents as being essential to their livelihood and an integral part of their past, present and future lives. In a very real sense, we share a common concern for the conservation of the resources of the West Isles.

A national marine park is intended not to disrupt the lives of local residents and those who rely on the sea for their livelihood, but to complement their efforts to ensure that the marine resources can continue to support their economic activity while, at the same time, to protect and conserve their inherent values for the benefit, appreciation and enjoyment of all Canadians.

The following sections of this report outline how a national marine park in the West Isles could accomplish its purpose and objectives, and be complementary to the goals and aspirations of the local population as currently perceived.

2.0 WEST ISLES FEASIBILITY STUDY: ITS ORIGIN AND PURPOSE

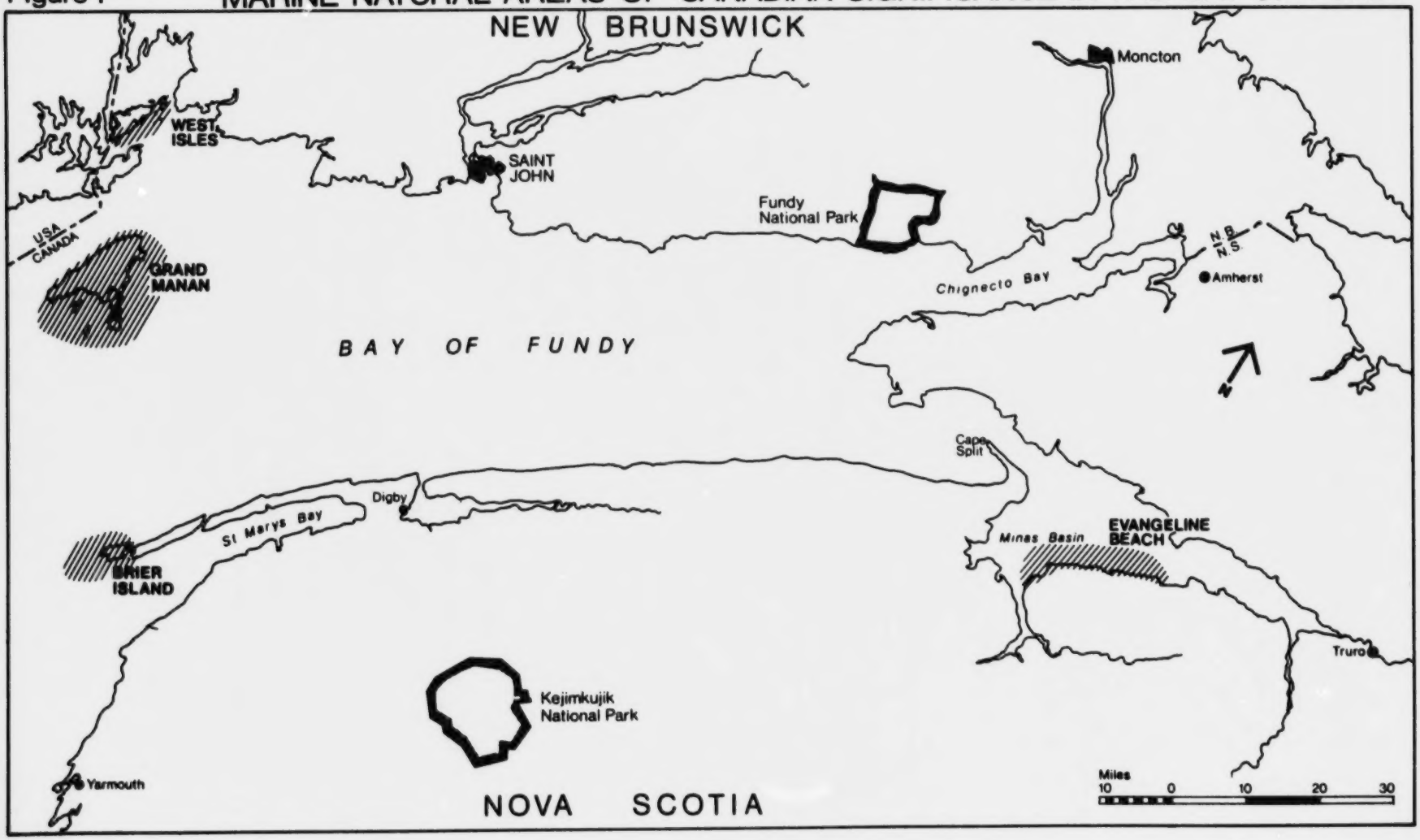
2.1 The Original Pilot Study

In 1975, the Marine Studies Section of the National Parks Systems Division, Parks Canada, carried out a preliminary survey of the Bay of Fundy Marine Region to identify areas of interest that may have potential for national marine park status. This study identified four marine Natural Areas of Canadian Significance, the West Isles and the Grand Manan archipelagos in New Brunswick, and Brier Island and Evangeline Beach in Nova Scotia (Figure 1). Further studies conducted from 1976 to 1978 determined, through comparative analyses of the marine and coastal resources of these areas, that the West Isles had the highest overall potential for national marine park status.

Consequently, in 1978 Parks Canada approached Tourism New Brunswick to consider the possibility of using the West Isles area in order to further develop the national park concept. A study team consisting of officials from both governments was established. The team compiled a resource atlas of the area, analysed the resource information to determine conservation and recreation potential, and developed one possible concept to illustrate how a national marine park could conceivably be established in the West Isles.

The study, entitled A National Marine Park Concept - West Isles, New Brunswick Pilot Study (Hardie and Jennings, 1981), was completed in 1981 and released to the public in March, 1983. The study recommended that consideration be given to the pursuit of a comprehensive feasibility study, and that the following issues be clearly addressed:

Figure 1 MARINE NATURAL AREAS OF CANADIAN SIGNIFICANCE IN THE BAY OF FUNDY



1) Policies for the sound management of marine resources within national marine parks.
2) The level of interest by local residents in the future establishment of a national marine park in the West Isles area.

The feasibility study was announced by a joint press release issued by the federal Minister of the Environment and the New Brunswick Minister of Tourism in November, 1983.

2.2 Study Methodology

The feasibility assessment is being carried out in three main phases. Each phase builds upon the one proceeding it and recommends a future course of action. The Feasibility Criteria are a measure of feasibility against which the results of the study could be assessed, particularly in the first phase.

Phase I, the subject of this report, is, in effect, a follow-up to and a further refinement of the work conducted in the original Pilot Study, with an emphasis on assessing whether it is technically feasible to establish a national marine park in the West Isles area. This assessment has required an in-depth review of the Pilot Study, its supporting information and a considerable amount of new resource information that has become available since the Pilot Study was completed. Many discussions have also taken place with other federal and provincial government agencies which have an interest in the management of the West Isles environment, in particular the federal departments of Fisheries and Oceans and Transport.

Initial consultations have also been held with the local public to determine the issues and concerns from their perspective. A series of open houses and a public meeting were held in the West Isles area in June, 1984. A summary of the issues and concerns raised is found in Section 4.0.

It has also been particularly important to assess the practicality and likely success of applying the draft National Marine Parks Policy within the study area. In addition, the assessment of feasibility has also been based on the physical, financial and operational realities of the proposed visitor use options and resource management guidelines developed for possible park development and management. The completion of Phase I is a prerequisite to the presentation of these proposed options and guidelines to the public, particularly in the local area, for their comments and suggestions.

This Phase I report is being submitted to the federal Minister of the Environment and the New Brunswick Minister of Tourism for a decision on whether to proceed with Phase II, public consultation. This second phase would provide the public with the opportunity to become directly involved in the decision-making process as to whether or not the proposal for a national marine park in the West Isles area is feasible.

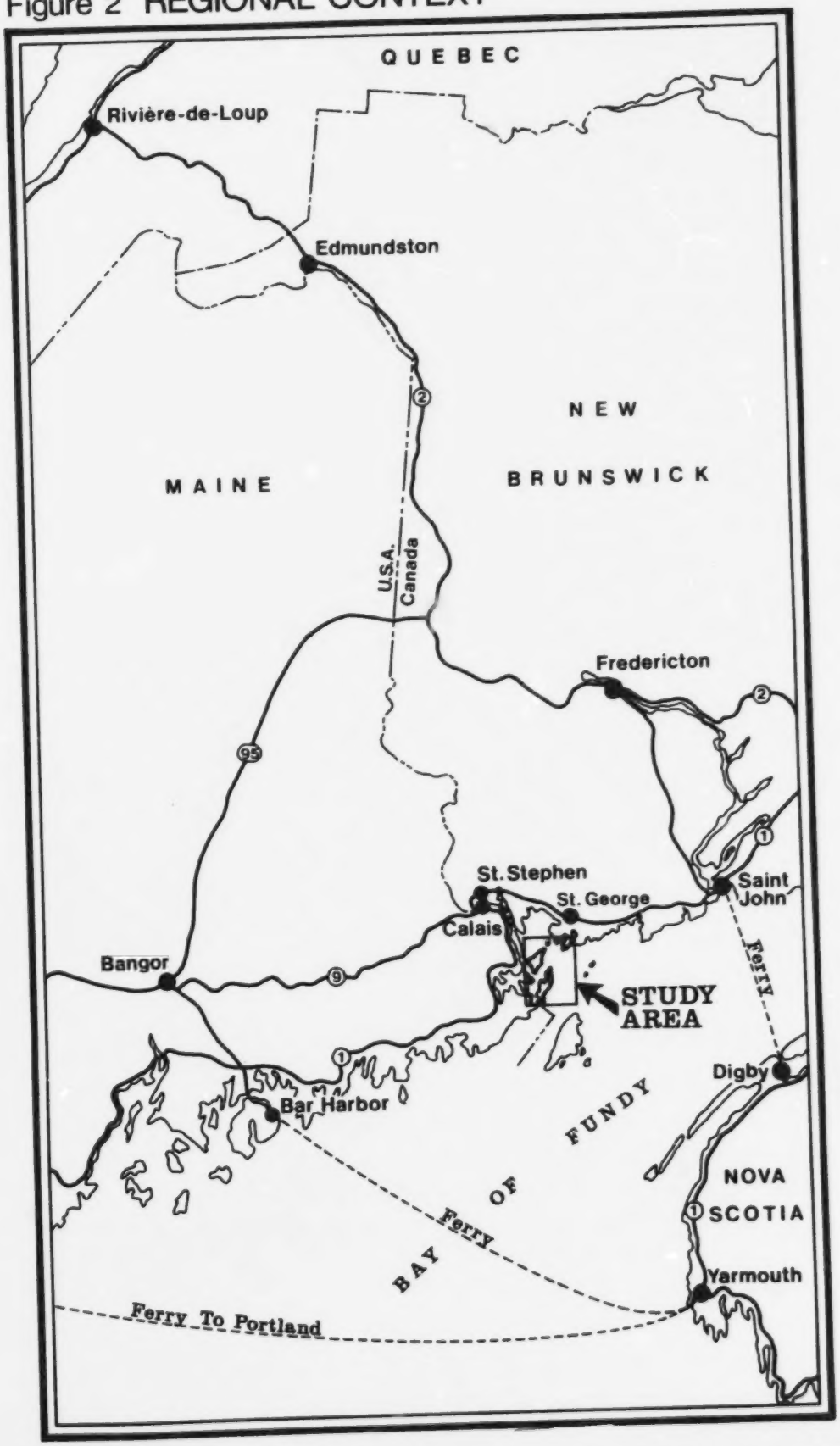
3.0 THE WEST ISLES STUDY AREA AND PROPOSED PARK BOUNDARY OPTIONS

3.1 The Regional Context

The area known as the West Isles lies at the mouth of Passamaquoddy Bay in southwestern New Brunswick near the entrance to the Bay of Fundy (Figure 2). The West Isles are located in Charlotte County which supports approximately 4% of the provincial population. On the New Brunswick mainland, the towns of St. George, St. Andrews, and St. Stephen are the largest communities in the region with a combined population of approximately 8,500 people. Numerous small villages are distributed along the mainland coast and on Deer and Campobello Islands. Approximately 2500 people (1981 Census) live in the West Isles area, Campobello Island and the local mainland coast. The majority live on Deer and Campobello Islands in several small communities including Lord's Cove, Richardson, Leonardville and Fairhaven on Deer Island and in Wilsons Beach and Welshpool on Campobello. The small communities of Back Bay, Letete and Green Point lie adjacent to the West Isles on the New Brunswick mainland.

Road access to the study area from the New Brunswick mainland is via Provincial Road 772 from St. George. Passenger car ferries provide access from Letete to Deer Island on a year-round basis, and between Deer Island, Campobello Island and Eastport, Maine during the summer months. Campobello Island is connected to the U.S. mainland via a bridge to the town of Lubec, with road access to Maine's coastal Highway 1. Road networks exist on both Deer and Campbello Islands.

Figure 2 REGIONAL CONTEXT



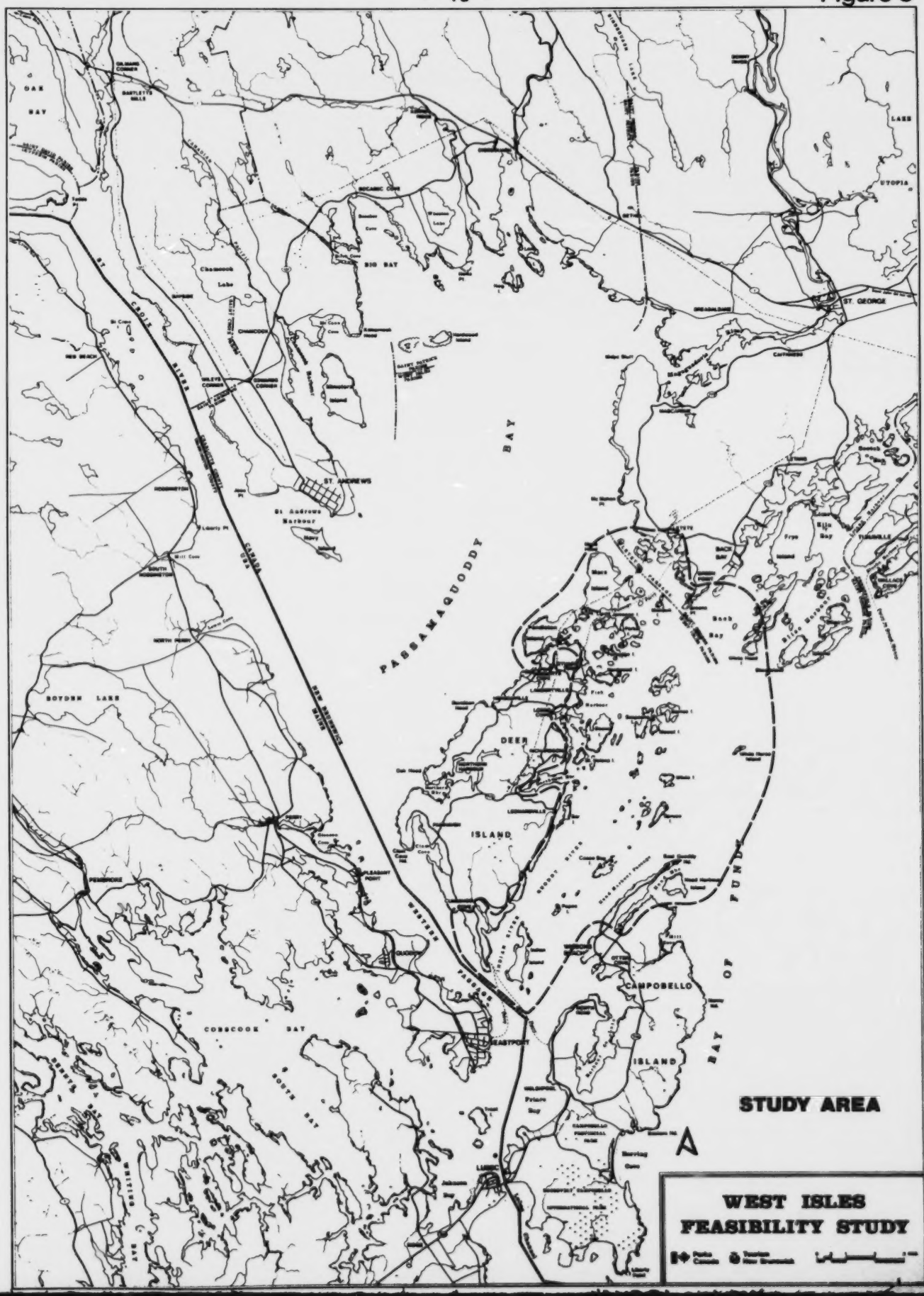
The study area considered for its national marine park potential is comprised primarily of the marine waters located between Deer Island and Campobello Island (Figure 3). From within this area of approximately 110 square kilometers, boundaries for a national marine park in the West Isles have been proposed and have been determined primarily on the basis of natural resource features and values considered essential or desirable for inclusion within the park. Section 3.3 identifies those specific features and Section 3.4 outlines the proposed park boundaries which comprise an area of approximately 55 square kilometres, or half of the study area.

3.2 The Natural Marine Heritage

The West Isles encompasses over forty islands, including numerous islets, rocky ledges and shoals. The islands delimit the southwestern extent of Passamaquoddy Bay and separate this bay from the Bay of Fundy, forming two passages between them, Letete Passage to the north of Deer Island and Western Passage to the south. While some of the larger islands exhibit a rugged character, where cliff heights can reach 90 meters, most of the smaller islands have elevations not higher than 15-45 metres. The irregular rocky shoreline interspersed with sheltered coves provides a varied and attractive seascape.

Subtidal topography is also rugged with charted depths reaching 125 meters where subtidal cliffs are common among the islands. The general compactness of the archipelago, together with the rugged character of the sea floor and extreme variations in depth and high tides, results in oceanographic conditions that produce a wide variety of

Figure 3


OAK BAY
BIG BAY
ST. GEORGE
BAY
PASSAMAQUODDY
ST. ANDREWS
BOYDEN LAKE
DEER
ISLAND
CAMPOBELLO
ISLAND
COBSCOOK BAY
EASTPORT
BAY OF FUNDY
STUDY AREA
WEST ISLES
FEASIBILITY STUDY

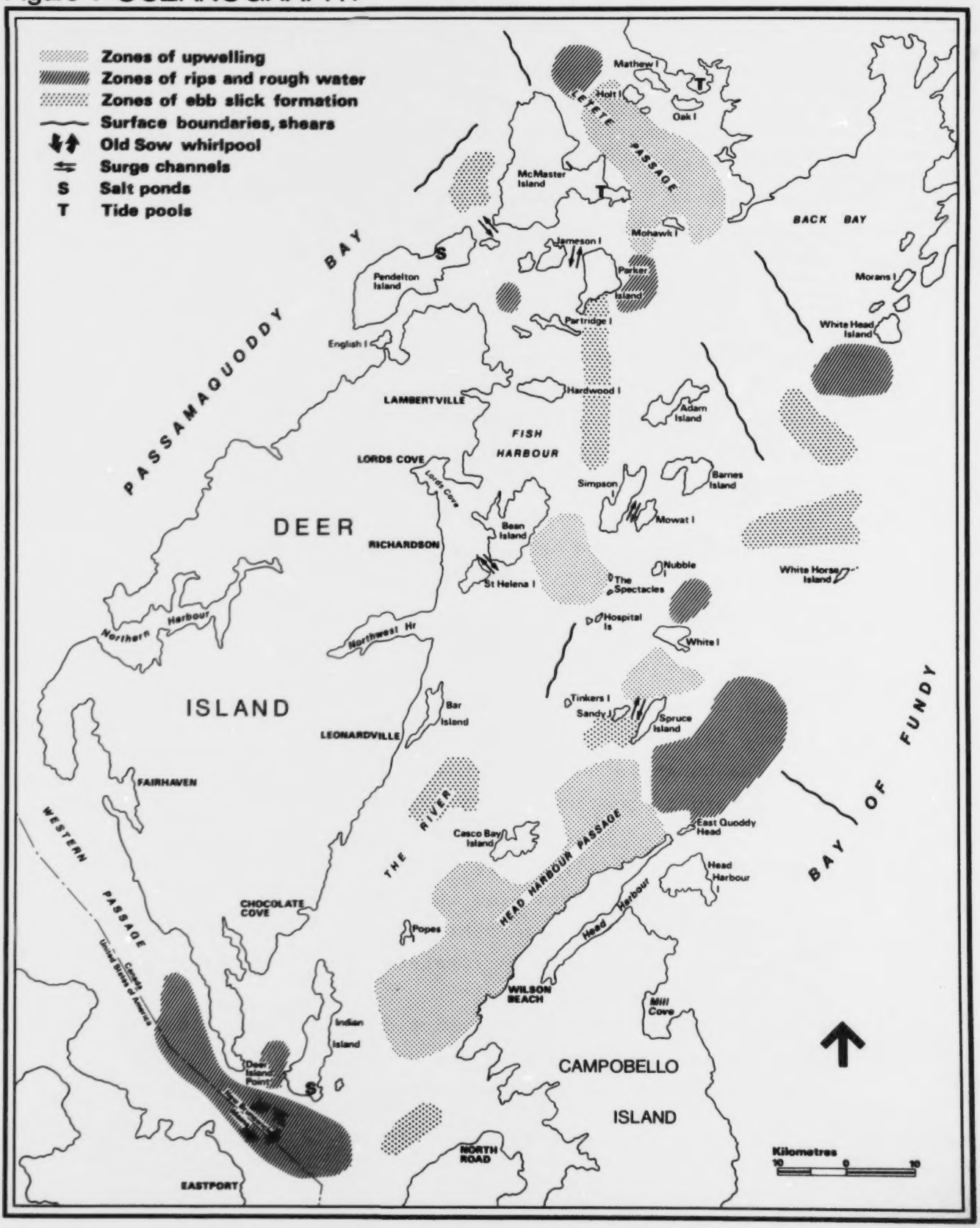
marine habitats with the highest levels of species diversity and abundance found in the Bay of Fundy.

Large volumes of water pass through the archipelago twice daily forming some of the highest tides in the world. The waters are subject to constant mixing and turbulence, with such features as surge channels, shear zones, slicks and areas of upwelling being very characteristic. The currents can be so powerful at certain localities to create such features as the Old Sow Whirlpool, located off the southern tip of Deer Island, which is the second largest whirlpool in the world (Figure 4).

The strong tidal currents and upwellings produce nutrient rich waters, and as a result the West Isles is one of the most biologically productive areas in the Bay of Fundy and on the east coast of Canada. Scientific studies have indicated that Head Harbour Passage and Letete Passage in particular are two of the most important centres of biological productivity in the Bay of Fundy. Almost all of the species known to occur in the Bay, from the smallest planktonic life forms to the largest whales, can be found in the seaward portion of the West Isles area, especially during the highly productive months of summer and fall. Marine species counts indicate that in the West Isles area there are known occurences of some 836 invertebrate species, 96 fish species, 20 species of mammals, 70 species of birds and 223 species of aquatic plants.

Some of the more significant marine natural resource features of the area include:

Figure 4 OCEANOGRAPHY



- critical feeding, breeding and staging areas of regional and national significance for a wide assemblage of shorebirds, seabirds and waterfowl such as Bonapartes Gull, Northern Phalarope, Common and Arctic Terns, and Common Eider; this is one of the few areas in the Bay where one can observe large numbers of feeding birds during spring and fall migrations; up to 70,000 birds can be seen on any one day during the migration periods (Figure 5);
- critical feeding and rearing areas of national and international significance for large whales such as the Finback, Minke and occasionally the Humpback Whale and the endangered North Atlantic Right Whale (Figure 6);
- a resident group of harbour porpoise reputed to be one of the largest remaining groups of the species in the world; the area is known to be the major stronghold for this species in the western North Atlantic, south of Newfoundland (Figure 6);
- tidal processes and oceanographic phenomena which are outstanding in Atlantic Canada, including the world's highest tides and the world's second largest whirlpool (Figure 4);
- open sea habitats which are the production grounds for one of the largest herring populations in the world;
- large numbers of surface swarms of Euphausid shrimp and associated marine life; only in a few areas in the Bay of Fundy is it possible to view this phenomenon;
- large populations of invertebrate species characteristic of Atlantic Canada such as lobsters, crabs, starfish, sea urchins, and sponges;
- a unique island archipelago which displays both the physical features depicting the geological and geomorphological past of this area of the Bay of Fundy,

Figure 5 MARINE AND SHOREBIRD NESTING AND FEEDING AREAS

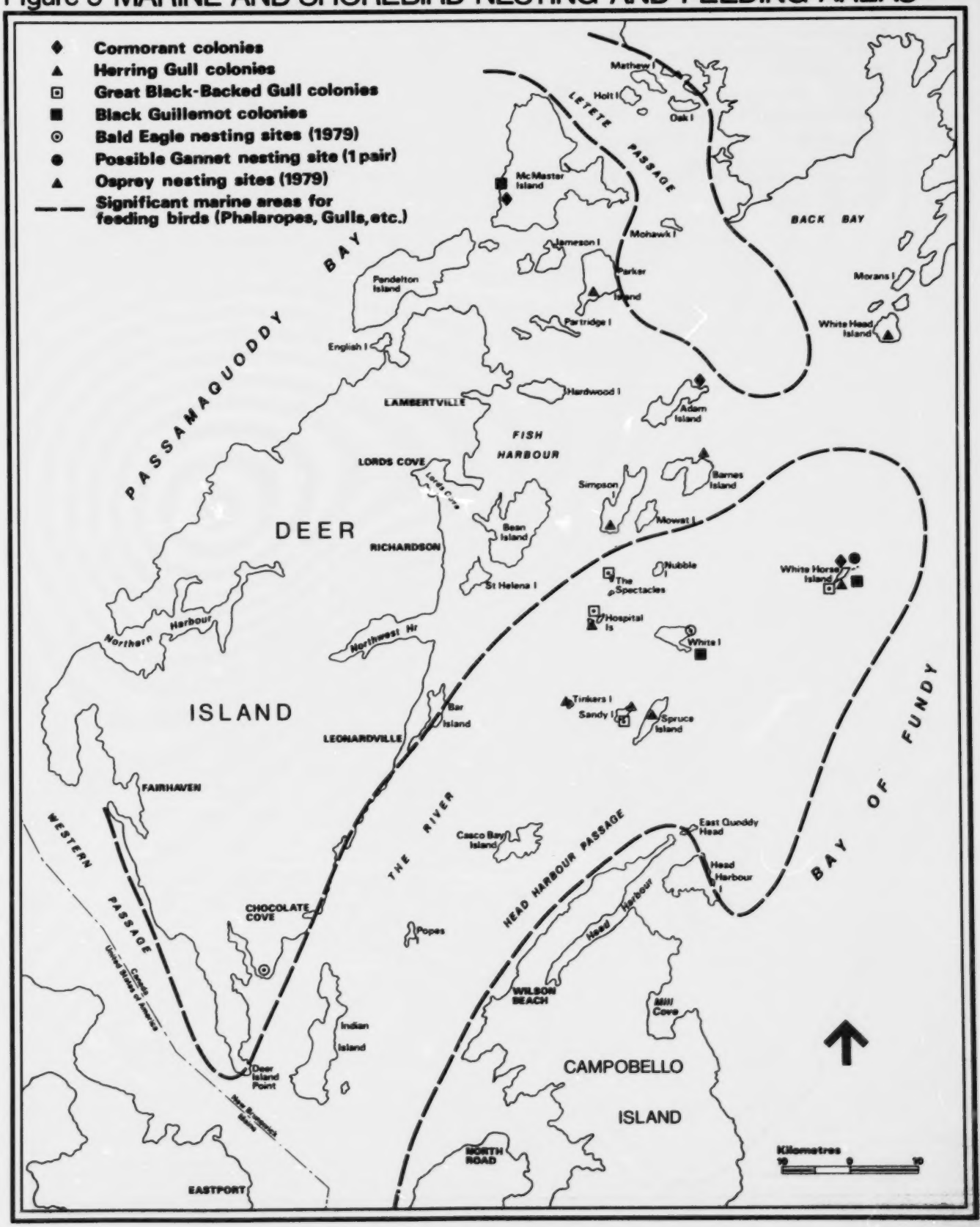
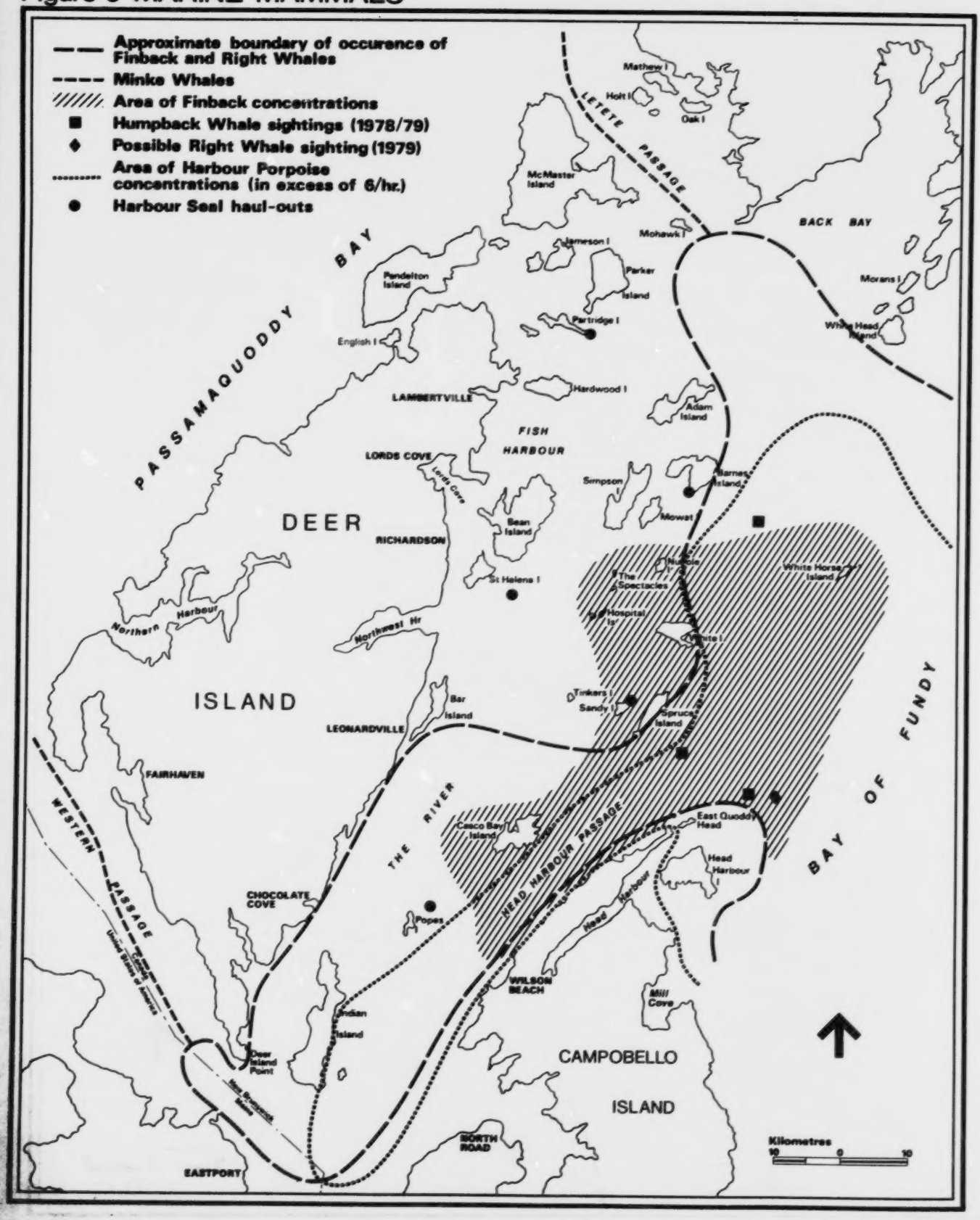


Figure 6 MARINE MAMMALS



including marine erosional forces, and the terrestrial components of the marine ecosystem such as the native forest communities and significant populations of raptors including the Bald Eagle and one of the most dense populations of Osprey in North America.

3.2.1 Specific Resource Features Recommended for Inclusion Within the Proposed Park

There are several specific areas or natural resource features within the study area that are recognized for their significance and that are particularly representative of the natural marine features mentioned above. Depending on their location and relative frequency or abundance in the study area, most have been considered either essential or desirable for inclusion in the proposed marine park. The proposed park boundaries include a core area encompassing those resources considered essential, and two possible boundary extensions encompassing those considered desirable.

The specific areas and resource features are identified below according to three categories:

1. Marine areas of high diversity
2. Important feeding areas for marine mammals and birds
3. Islands

1. Marine Areas of High Diversity

MacKay et al (1978) rated intertidal and subtidal marine communities based on their abundance and diversity. The

areas in the West Isles area that scored highest are listed below:

- the area surrounding White Horse Island
- the area surrounding Sandy and Spruce Islands
- the area surrounding Adam, Simpson, Barnes and Mowatt Islands
- the area surrounding Indian Island
- the shallows north of Hardwood Island to Parker Ledge, Mohawk Island and bounded by Macs, Pendleton and Deer Islands
- the shoal area around Deer Island Point and up the west side of the point
- the shoal area on the northeast side of Macs Island
- the shoal area on the west side of Green Point

2. Important Feeding Areas for Marine Mammals and Birds

MacKay et al (1978) listed critical feeding areas for marine mammals and birds in the West Isles area (Figures 4 and 5). The core of the areas for harbour porpoise, fin whales and most concentrations of marine birds are:

- Letete Passage
- Head Harbour Passage north of Popes Island, out to and around White Horse Island, west to Spectacle Island and Sandy Island and south-east to include Head Harbour Passage.

3. Islands

White Horse Island

This is an important nesting island for marine birds such as gulls, guillemots and cormorants. There is also a

possibility the island may have small numbers of nesting gannets and puffins.

Adams, White, Simpson, Mowat and Barnes Islands

These islands represent a relatively untouched example of the region's small islands, are scenically attractive and the shoals and reefs surrounding them offer a diversity of underwater habitats. There are bald eagle nests on White Island, cormorant colonies on Adams Island, a herring gull colony on Barnes Island and an osprey nest on Simpson Island. The island group is also used as a haul-out area for harbour seals.

Sandy Island

This is an important island because of its herring and great black-backed gull nesting colonies and the presence of a small sandy beach on the south end. The Island is surrounded by marine areas of high ecological diversity.

3.3 The Cultural Marine Heritage

With such a rich and diverse environment, it is no coincidence that for centuries man has relied on the natural resources of the West Isles and developed cultures which directly reflect the area's attributes. The West Isles area

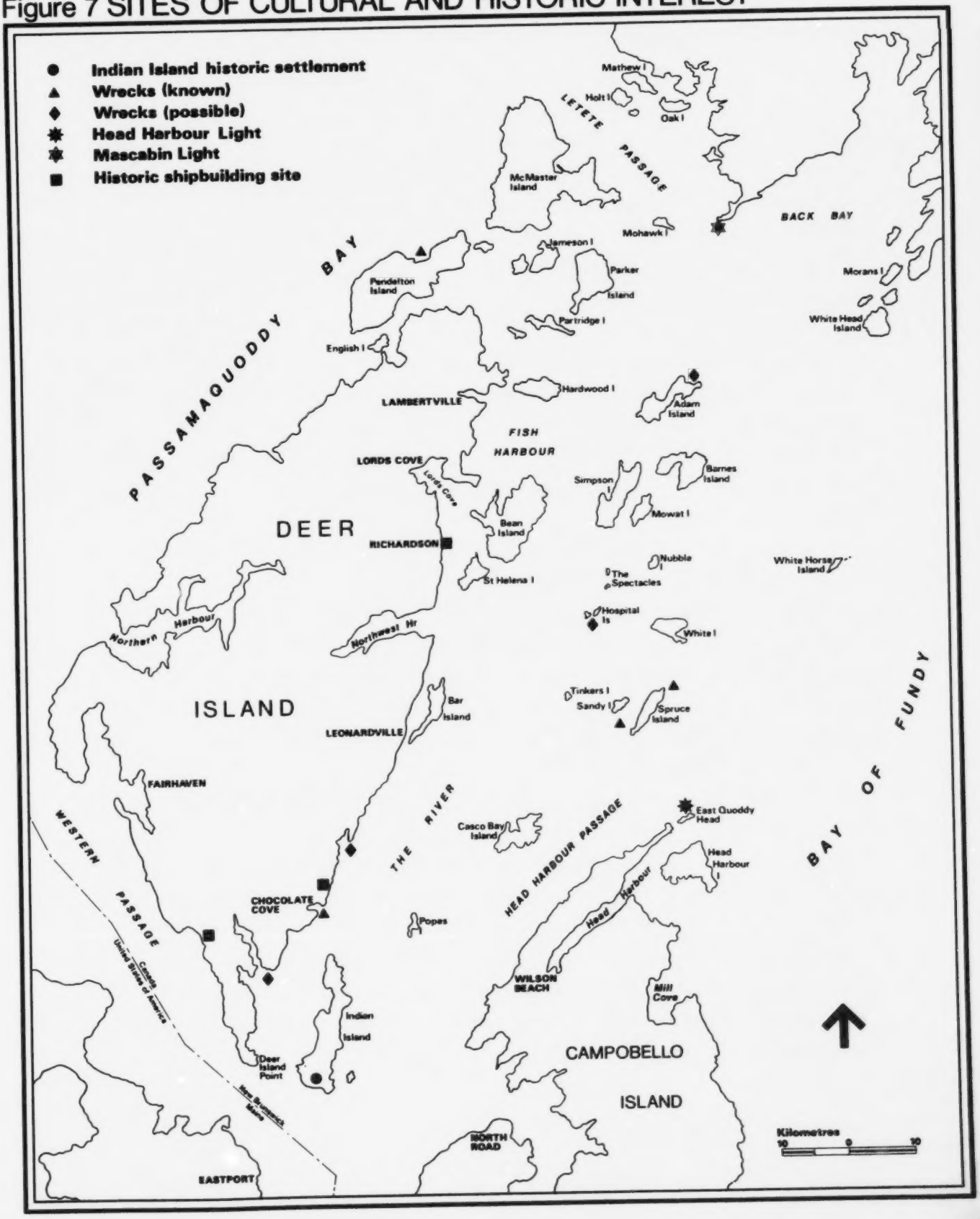
has a variety of cultural and historic sites of interest, several of which are recognized as having regional significance in Atlantic Canada (Figure 7). The period of human settlement spans over 2,500 years of native occupation and over 350 years of European settlement. The close relationship between man and the sea has been a strong and consistent theme throughout this period.

Prior to European settlement, the West Isles area was frequented by the Passamaquoddy tribe of the Algonkian linguistic group. These native people hunted and fished in the archipelago but were, for the most part, transient vistiors to the area. Little is known of the history and background of these people in the West Isles area, although there are several shell midden sites on Deer, Partridge, Indian, Parker, Jameson, and Hardwood Islands.

Samuel de Champlain was the first white man to be seen by these native people as he sailed through Letete Passage in 1604 enroute to St. Croix. Following the settlement attempts of the early 1700s, the Loyalist and post-Loyalist periods have left the West Isles with a rich historical legacy. The area's assets of sheltered harbours, rich marine waters, and bountiful forests all combined to create industries of lumbering, shipbuilding, trading and fishing from which everyone, directly or indirectly, derived their livelihood.

Much physical evidence of this historical activity still remains, some in the form of ruins and others in the form of buildings or activities that have retained their utility to the present day. Several structures and other artifacts still remain of the Chaffey estate on Indian Island, for

Figure 7 SITES OF CULTURAL AND HISTORIC INTEREST



example, a vestige of one of the first and most successful trading establishments in the West Isles area. Between 1765 and into the 1820's, James Chaffey and his heirs established strong trading links with England, the United States and the Caribbean. The Chaffey company generated significant sea traffic between these points and is believed to have rivalled many of the major ports on the east coast of North America.

While agriculture and lumbering were also active during the 1800s, the shipbuilding industry was thriving. From 1822 to 1850, Richardson and Cummings Cove on Deer Island achieved a wide reputation as producers of fine vessels. Remains of the Cummings Cove yard and associated artifacts can still be seen on this site.

Mining, although an intricate part of the history of the West Isles, has never really been a significant part of the social fabric or economy of the area. In 1869, a shaft was sunk on Adams Island to extract chalcopyrite and bornite. Evident on the island is the headstock of one of the shafts of the early 1920's.

The commercial fishing industry, however, has long been the major resource harvesting activity and the economic mainstay of the West Isles area. Historical documentation indicates that as early as 1808, most residents of Deer Island were commercial fishermen. Over the years, a wide variety of fish species have been harvested, including herring, pollock, mackerel, cod, haddock, and assorted shellfish, scallops in particular. The lobster fishery has also made a significant contribution to the local fishing economy.

Fish harvesting methods utilized in the West Isles have been equally variable and include gill netting, seining, hand-lining, long-lining, trawling, dragging and, most importantly, weir fishing. The herring weir fishery has been active throughout the historical period in the West Isles. As early as 1850, 21 weirs were reported along the shoreline of Campobello Island. This fishery in particular is of considerable economic and cultural value to the West Isles area, and is most representative of the local relationship between man and the sea. At a national level, the West Isles area has the highest concentration of herring weirs in Canada.

A particularly interesting legacy of the shipping and trading era of the past is the number of shipwrecks and their cargos known or suspected to exist in the area of the proposed park. Most are merchant vessels of various sizes, but at least one admiralty ship, the H.M.S. Britannia, is known to have foundered in the area and now lies on a ledge near Sandy Island. Other wrecks can be found off the shores of Pendleton, Spruce, and Sandy Islands, near Chocolate Cove, Deer Island, and possibly off Hospital Island and Deer Island Point.

Due to the number of shipwrecks and the treacherous nature of these waters, it became necessary to erect lighthouses. While Grand Manan Island received its first lighthouse in 1831, the first lighthouse in the West Isles area was built at East Quoddy Head on Campobello Island in 1871, followed by a second at Green Point (Mascabin Head). The lighthouse complex at East Quoddy Head is a particularly good example of such structures built during this period and has excellent potential for the interpretation of maritime

nautical history as well as the natural history of the West Isles area.

Section 2.2.12 of the draft National Marine Parks Policy states that: "Significant historical and archaeological resources in marine parks will be protected." Research is still required to identify and assess historical and archaeological sites in the West Isles, and to determine the most appropriate management actions to effect their protection.

The management of shipwrecks and other marine historical resources found underwater within marine park boundaries is a unique challenge, but one in which Parks Canada is rapidly gaining experience. While the legal questions of ownership of marine historical resources, and the subsequent authority to administer and manage them within national marine parks, have yet to be clarified among provincial and other federal authorities, it is assumed here that Parks Canada would be the lead agency responsible for managing such resources in national marine parks. These management responsibilities would include the protection of marine historical and archaeological resources, the management of visitor use of and the interpretation of these resources, and the special consideration of visitor safety. The participation of Parks Canada's Underwater Archaeology Section would be most valuable in developing these management programs and conducting the necessary research.

3.4 Proposed Park Boundaries

The boundary of an area selected for a national marine park should:

1) include those natural and cultural resource features and themes considered representative of the Natural Marine Region in which the park is located, and provide for the protection and conservation of those resources;

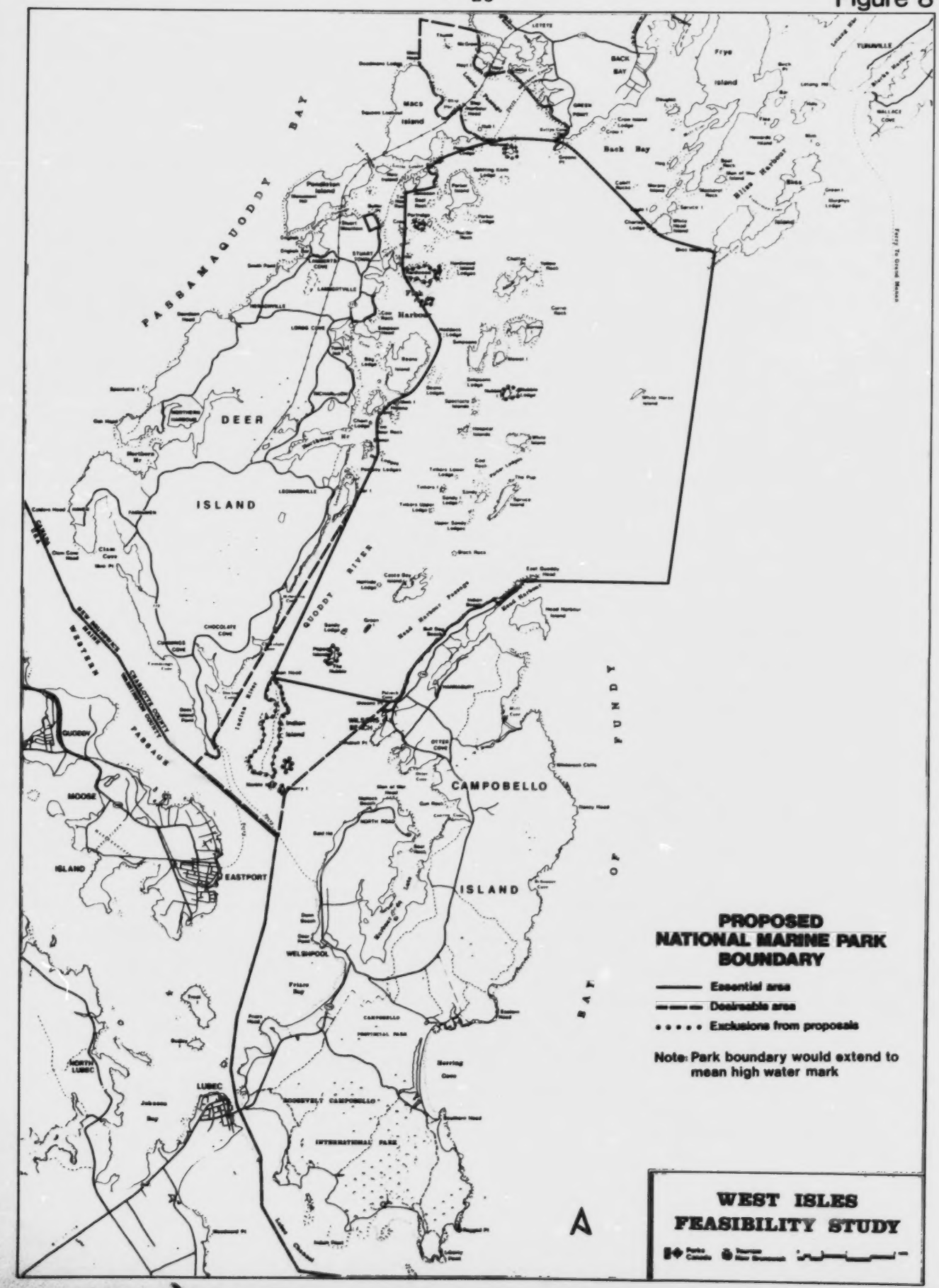
2) include sufficient land and water components to provide for the understanding, appreciation and enjoyment of the park by the public; and

3) enable the efficient management and administration of the national marine park.

Consequently, the proposed park boundary shown in Figure 8 defines a core park area that represents the minimum area that is considered essential for a viable national marine park. This core area is approximately 55 square kilometres in size. Two additional areas have also been defined to the north (3.4 sq. km.) and south (6.5 sq. km.) of the core park area that, while not essential, would be desireable for inclusion within the park.

The proposed core area includes most of the marine waters between Deer and Campobello Islands extending as far south as the northern tip of Indian Island and north to Mohawk Island and Green Point. The proposed boundary would extend from Green Point on a straight line east to White Head Island and on to Bliss Island Point, veer south through a point one kilometre east of White Horse Island to a point

Figure 8


PASSAMAQUODDY BAY
DEER ISLAND
QUODDY RIVERS
BAY OF FUNDY
CAMPOBELLO ISLAND
MOOSE ISLAND
EASTPORT
LUBEC
WELSHPOOL
PROPOSED NATIONAL MARINE PARK BOUNDARY
Essential area
Desirable area
Exclusions from proposals
Note: Park boundary would extend to mean high water mark
WEST ISLES FEASIBILITY STUDY

2.5 kilometres east of East Quoddy Head and veer west to East Quoddy Head. The inclusion of lands on East Quoddy Head is applicable to visitor use options 2 and 3 only. The boundary would then follow the high water mark along the west shoreline of Campobello Island to Wilsons Beach where it would extend west to the northern tip of Indian Island. The eastern boundary would be situated .25 to .5 kilometres offshore from the east shoreline of Deer Island until it meets Bar Island from where it would continue north, including the Net Ledges, Two Hour Rock and Mink Island, to seaward of Beans Island but including the Beans Ledges, to the landward side of Hardwood and Partridge Islands. The boundary would then follow the seaward high water mark around the Jameson Islands, include Parker and Mohawk Islands, and thus return to Green Point. A small land area at Green Point would be included in visitor use options 1 and 2.

Not all those areas identified for their resource significance have been included in the core park area, for example the marine waters surrounding Indian Island, Deer Island Point, Green Point and Letete Passage. While they are still considered desirable for inclusion within the proposed park, some representation of their marine themes and values is found within the core area.

A possible northern addition to the core area would include those waters in Letete Passage northwest of Mohawk Island and Green Point between Macs Island and the main land shoreline following a line to McGraws, Hoyt and Cooks Islands to, and including, Kelly's Cove.

A possible southern addition to the core area would include those waters south and west of Wilsons Beach to Indian Island and the Canada-U.S. border, from Cherry Island on the east to Deer Island Point on the west.

All islands within the core park area are recommended for inclusion, except where indicated as excluded on Figure 8. Some land on Deer and Campobello Islands and on Green Point is identified for park purposes. This land is shown on Figure 8. The specific parcels of land required vary with the visitor use options.

Where the boundary extends over marine waters, the boundary would include the water column and would encompass the sea bed subject to the agreement of the Province of New Brunswick to transfer the administration and control of these seabed lands to the federal government. The boundary would be delineated on the water surface by a system of buoys and beacons situated at strategic locations to clearly identify the limits of the national marine park.

4.0 A SUMMARY OF PUBLIC COMMENTS

In response to the request of the local public to discuss the feasibility study, five days of open houses and a general public meeting were held in June of 1984. The open houses were held in Fairhaven on Deer Island, St. George, St. Andrews and Welshpool on Campobello Island. The public meeting was held in Lambertville on Deer Island. Approximately one hundred people attended the two days of open houses on Deer Island, about thirty attended the two open houses in St. George and Welshpool, and fifteen attended in St. Andrews. Approximately one hundred and seventy-five people participated in the public meeting in Lambertville.

The purpose of the open houses and the public meeting was to discuss with the local people the purpose of the feasibility study and the way it was organized, to obtain further, or to correct, existing information about the study area, and to identify issues and concerns from the perspective of the local public to be considered during Phase I of the study. At the time of the meetings, the public had only a general and preliminary park purpose and objectives statement upon which to comment. There was no opportunity for the public to comment on options for the management and use of a national marine park since the options were developed later as Phase I of the study progressed. However, the suggestions and concerns of the public have been taken into consideration during the formulation of the options, the assessment of feasibility criteria, and the subsequent preparation of the Phase I recommendations.

4.1 Major Issues and Concerns

The major issues and concerns identified during the public consultation sessions are outlined below and are categorized under the following headings:

A. Park Purpose
B. Park Objectives
    1. Resource Protection/Conservation
    2. Public Understanding, Appreciation and Enjoyment
    3. Regional Integration

A. Park Purpose

The local public generally expressed consensus that the West Isles area had many special values that warranted conservation. Some felt there were now insufficient controls to protect the West Isles environment and that a national marine park could provide them. Others questionned whether a national marine park was the most appropriate way to achieve conservation objectives and whether Parks Canada would be able to manage these resources in a way that would permit the continued viability of the commercial fishery and the maintenance of their lifestyles. While it was recognized that the management of a national marine park would require co-operation among several government agencies and the local public, there was an expressed lack of confidence in the government's ability to work cooperatively or to consider public opinion in its decision-making process. The public was particularly concerned about what role they would play in the park planning and management process.

B. Park Objectives

1. Resource Protection/Conservation

Many members of the public were concerned over the long term prospects for resource conservation in the West Isles, whether a park was established or not, particularly in view of current or proposed commercial developments in the area. It was recognized by some that the establishment of a park could assist in mitigating the negative effects of such development.

The major concerns expressed were the potential impact of a national marine park on the commercial fishery and the management practices which would be put in place to manage the fishery and park visitor use. Specific issues referred to the size of the proposed park, the continuation of existing or possible future commercial fishing practices, traditional domestic resource harvesting, hunting, and potential conflicts between resource protection, commercial fishing and park visitor activity. The potential effect of increased boat traffic and noise on fish movement was an issue of particular importance. Some also expressed the concern that existing problems of disturbance to fishing gear and poaching would increase should a park be established.

Many fishermen stressed the point that their involvement in the park management decision-making process would be necessary if solutions were to be found to these problems. Some felt that such participation in park management would help local

commercial fishermen in protecting their fishing interests. Before a final decision on a national marine park in the West Isles, they sought guarantees that the commercial fishery would continue, that the commercial fishermen would be part of the decision-making process relative to park planning and management, and that they would not have to contend with new and additional regulations on the commercial fishery imposed because of park establishment.

2. **Public Understanding, Appreciation and Enjoyment**
Those residing in the area adjacent to the proposed park were concerned about the number of park visitors that may be attracted, and the potential impact of this visitation on their lifestyle. Over and above the potential impact on the commercial fishery, they also envisioned other potential problems such as increased traffic congestion, particularly on the Deer Island ferry and its access roads, and increased incidences of vandalism, rowdyism, littering and crime. It was also recognized, however, that many of these problems exist with current levels of tourism and that a national marine park would assist in their control. They also inquired about the impact on the local infrastructure and services such as water, sewage, health, police and fire protection.

Some also noted that the West Isles is a sensitive environment and were concerned about the potential impact of increased visitation on the area's natural resources. Summer weather conditions, with frequent fog, were viewed as a serious constraint to visitor enjoyment, as were the potentially dangerous conditions in the cold and turbulent waters of the West Isles.

Concern was expressed that the regulations affecting park visitors would also apply to local residents and thereby limit their traditional activities.

3. Regional Integration

Several concerns were raised over the potential impact of the proposed national marine park on, and its relationship with, the surrounding region. It was suggested that land speculation would occur, with the subsequent increase in land prices and taxes. There was a concern that lands would be expropriated for park purposes, and that new land use controls and zoning would be put in place to control local land use patterns.

It was recognized that the proposed national marine park could assist in expanding the diversity of the local economy by providing opportunities for the private sector to become involved in the tourism industry, or by providing direct and indirect employment for local residents. While this prospect was seen by some to have merit, others considered the potentially negative social effects to outweigh

the potential economic benefits. They felt that if a park were established, opportunities would have to be provided to enable local people to participate in the decision-making process relative to park planning and management on a regular basis.

5.0 RESOURCE PROTECTION AND CONSERVATION

An important element in the assessment of the technical feasibility of establishing a national marine park in the West Isles is the formulation of management guidelines for the protection and conservation of its natural resources. It is recognized that the most significant resource concern in the West Isles is the management of the commercial fishery. Other important concerns discussed include the management of water quality, domestic resource harvesting, commercial shipping and sport hunting.

The recommended Resource Management Guidelines that follow have been prepared in response to these resource concerns as identified by the public of the West Isles area, Parks Canada, Tourism New Brunswick, and the Department of Fisheries and Oceans (DFO). This section of the report describes these concerns and outlines the rationale used to formulate the recommended guidelines. The discussion of each concern is followed by the recommended guidelines specific to that concern. In several cases, the need for additional research has also been identified. Consequently, some guidelines must be considered as interim until the results of this research are known.

5.1 Commercial Resource Harvesting

The area of the proposed national marine park in the West Isles supports a valuable commercial fishery based mainly on herring, lobster and groundfish. There is also smaller scale resource utilization such as scallop fishing, dulse collecting, clam digging and salmonoid aquaculture.

Commercial fishing would continue in a national marine park in the West Isles and would continue to be managed by the Department of Fisheries and Oceans. It is Parks Canada's position that marine parks and commercial fisheries are compatible and indeed share a common concern for the long-term conservation of marine resources. Further, it is a condition of the Province of New Brunswick's participation in this study, that the establishment of a national marine park would not have a negative impact on the commercial fishery.

Based on the above, the general principles which follow would apply to the management of commercial fishing within a national marine park. Each of the commercial fisheries is then discussed individually with recommended resource management guidelines for a national marine park.

5.1.1 General Principles

1) Commercial fishing would continue in a national marine park in the West Isles area.

2) Commercial fishing in a national marine park would continue to be managed by DFO and regulated under the provisions of the Fisheries Act, and only DFO regulations would be utilized to regulate the commercial fishery.

3) Commercial fishing in a national marine park would be managed in accordance with the regional fisheries management plans prepared by DFO. Parks Canada would not be responsible for the formulation of species quotas, seasons, or other regulatory mechanisms related to the management of fish stocks.

4) A fisheries management plan for the national marine park would be jointly prepared and approved by DFO and Parks Canada, in consultation with the local fishing industry, with specific management guidelines related to park management matters and the interaction between the management and operation of a national marine park and the commercial fishery, for example, time and spatial zoning around herring weirs to minimize interference from park activities. This management plan would be prepared prior to, and would become a condition of, park establishment.

5.1.2 The Herring Fishery

There are about 90 active herring weirs in the West Isles study area, about 35 of which are located within the core area of the proposed national marine park. The West Isles weir fishery accounts for approximately 50% of the herring catches in District 51, which encompasses the waters surrounding Deer and Campobello Island. It is a limited entry fishery, which means participation is allowed only with the purchase of one of the existing licenses, the total number of which is fixed. The main weir fishing season occurs from June to October, although in exceptionally good years, weir fishing will continue into the winter months.

The West Isles weir fishery is one of the last remaining major weir fisheries in the world and has its own cultural significance. Approximately 2000-2500 people are employed in the regional herring industry, of which weirs are the mainstay. The herring catch represents 92% of the total volume of all fish landed in District 51. The value of herring landed in the district, including the West Isles

Study Area, was approximately $2,400,000 in 1982 (N.B. Department of Fisheries, 1983). Although the herring catch increased steadily up to 1982, the volume for 1983 and 1984 declined drastically.

The herring are attracted to the West Isles to feed in the nutrient rich waters. As a pelagic, migratory species, the herring caught in the weirs are subject to a regional management strategy prepared by the Department of Fisheries and Oceans. The weir fishery is somewhat self-regulating, with weirs catching only a percentage of the available stock.

Some areas of conflict could exist between a park and the weir fishery. Whales and seals, which a park should help to protect, are often trapped in weirs causing damage to both the animals and the weirs. Seals (primarily Harbour seals) are periodically shot by local fishermen and aquaculturalists when seals are damaging gear or preying on captured fish. A bounty currently exists on grey seals in the Bay of Fundy. Ideally, the shooting of seals by fishermen would not be a desirable way to manage seal populations in national marine parks. However, the seal population has risen dramatically in recent years and a problem does exist for weir fishermen.

Concern has also been raised by the Bay of Fundy Weir Fishermen's Association that recreational boating could disrupt herring movements into the weirs.

The herring weir fishery is of obvious economic and cultural value to the West Isles residents who rely to a great extent on its production for their livelihood. As a unique fishery and one with a long tradition, the weir fishery is an

irreplaceable component of the cultural fabric of the West Isles and would be essential to interpreting the relationship between man and the sea. Parks Canada's management program would be oriented toward explaining this fishery to park visitors and minimizing any potential disturbance to it by park related activities, recreational boating in particular.

Resource Management Guidelines:

1) The commercial fishery for herring using traditional weirs, seines, and gill nets would continue within a national marine park, subject to the applicable regulations of DFO. There would be no limits imposed by Parks Canada on access to them by fishermen.

2) Shut-off seines would also continue to be utilized subject to normal DFO regulations, within the national marine park except at designated sites required for park purposes identified by Parks Canada and DFO, in consultation with the local fishermen.

3) Fishermen who wish to relocate their weirs within a national marine park would continue to be able to do so subject to the regulations of DFO and DOT, and with the exception of sites required by Parks Canada for park purposes. Such sites would be identified by Parks Canada and DFO, in consultation with local fishermen.

4) A management strategy for seals would be prepared by DFO and Parks Canada in consultation with local fishermen, which would establish measures to be used to minimize losses to weir fishermen or aquaculturalists caused by seals. Until a seal management plan is implemented,

individual fishermen would be permitted to continue to shoot seals that are in the act of causing damage or loss.

5) All park facilities in the vicinity of weirs, would be sited in consultation with the local fishermen owning and/or operating those weirs. Care would be taken to ensure park activities, such as recreational boating and boat tours, would respect the weir fishing activity. Distance of a particular facility from a weir will depend on the nature of the facility and site characteristics.

6) Small scale staging areas which support weir fishing activities would continue where they currently exist as long as they do not disturb ecologically sensitive sites.

7) Due to the existing and significant interest shown by current tourists in the operation of weirs, Parks Canada would wish to enter into agreements with local weir fishermen to make certain weirs accessible on a controlled basis for the purpose of demonstrating the weir fishing technique to park visitors. This would satisfy public interest, have high interpretive and educational value and deter visitor curiosity from other weirs in the area.

5.1.3 The Groundfish Fishery

The term "groundfish fishery" refers to the harvesting of a number of species by several different methods. In the West Isles area, the principle species caught are cod, haddock, winter flounder and pollock. In 1982, these species supported a catch of 1,005 metric tons for a value of $599,000 (N.B. Department of Fisheries, 1983). Methods of harvesting groundfish include hand-lining, long-lining, dragging, seining and gill netting. A large area of the West Isles is currently closed to groundfish gill netting because of a conflict with hand-lining and long-lining gear.

The groundfish fishery fluctuates from one location to another from year to year depending on the distribution of the different fish species. Most groundfishing activity takes place outside the core of the proposed national marine park and is located primarily seaward of Barnes, White and Spruce Islands extending beyond White Horse Island toward the Wolves.

There are several resource concerns typically associated with groundfishing in Atlantic Canada. Dragging for groundfish involves the use of various types of trawls and bottom seines designed to catch fish living on or near the bottom. This fishing practise can result in disruption to the seabed and the by-catch of non-target species. Groundfish gillnetting can result in the by-catch of marine mammals and diving seabirds which often drown in the nets before being released.

Resource Management Guidelines:

(1) The groundfish fishery would continue in a national marine park subject to the applicable DFO regulations.

(2) Where adverse effects of groundfish dragging on the seabed or of groundfish gillnetting on seabirds and marine mammals are suspected, monitoring studies would be conducted to determine the extent of this impact. If this research indicates that significant seabird or marine mammal mortalities occur, Parks Canada would work closely with DFO, the Canadian Wildlife Service and the fishing industry to develop management solutions which are mutually acceptable. Such solutions would be added to the negotiated fisheries management plan for the park.

5.1.4 The Scallop Fishery

Scallops are common in the West Isles area but are not sufficiently abundant to sustain a large fishery. Scallops are usually harvested by dragging in the winter to supplement local incomes.

In 1982, the landed value of scallops in District 51 was $201,000. However, it is impossible to determine what portion of that value was actually harvested from within the area of the proposed marine park (NB Dept. of Fisheries, 1983). There were 72 scallop licenses issued in District #51 in 1982.

Scallop dragging within the core area of the West Isles (Head Harbour Passage - Quoddy River - Fish Harbour) is very localized. Activity is limited to a small number of boats

due to the small size of the scallop beds and rugged underwater topography. Scallop dragging can also be disruptive to the sea bed environment, but the extent of the impact of scallop dragging on the marine habitats of the West Isles is not known, and further research is required.

Scallop and groundfish dragging are now prohibited in much of the study area during the spring, summer and fall in accordance with Section 24 of the Atlantic Fisheries Regulations. Subsection 24(1) of this regulation reads:

> "... the master of every fishing vessel with mobile gear shall at all times while the vessel is engaged in fishing ensure that there is maintained a distance of at least one-half nautical mile between his vessel, including any equipment and gear attached thereto, and any previously set fixed gear."

Mobile gear is defined to include scallop drags, otter trawls and purse seines. Fixed gear includes herring weirs.

Resource Management Guidelines:

(1) Scallop dragging would continue in a national marine park subject to the applicable DFO regulations.

(2) Parks Canada would work cooperatively with DFO and the fishing industry to minimize indiscriminate methods of fishing and the use of gear which is destructive to the sea bed. Where adverse effects on marine habitats and ecosystems are suspected, moritoring studies would be initiated to assess the extent of the problem. If

significant effects are identified, Parks Canada would work closely with DFO and the fishing industry in order to develop management solutions which are mutually acceptable. Such solutions would be added to the negotiated fisheries management plan for the park.

5.1.5 The Lobster Fishery

The lobster fishery constitutes the most valuable invertebrate fishery in the West Isles study area. This inshore fishery extends from low tide level to depths of 55 metres or more and occurs throughout the study area. Landings vary seasonally due to weather, water temperatures, and the lobster fishing season which is open from November 15 to June 24. Five percent of the catch is landed from January 1 to April 30, 25% from May 1 to June 24, and 70% from November 15 to December 31. There is no lobster fishing from June 25 to November 14.

Because of the oceanographic (high tide) conditions and proximity to U.S. markets, the West Isles area is one of Canada's major areas for the long term storage of live lobsters. Lobsters caught elsewhere in the Atlantic Provinces are held in large tidal pounds for marketing in summer and winter. Seven pounds located on Deer Island stock at any one time an average of 1.6 to 2.5 million pounds of live lobster.

In 1982 there were 55 licensed vessels in the lobster fishery in District 51 that landed 61 tons for a value of $410,000 (N.B. Dept. of Fisheries, 1983). The value of the lobster catch increased by 65.5% between 1980 and 1982.

Resource Management Guideline:

(1) The lobster fishery would continue in a national marine park subject to the applicable DFO regulations.

5.1.6 The Clam Fishery

The soft-shelled clam is a traditional though somewhat sporadic fishery. Clams are harvested annually with a clam hoe on available "clam flats". There is no consistent seasonal pattern of this particular fishery. Some of the more important clam areas in the West Isles are Doyles Passage and the Mascarene penninsula. Although numerous areas on the mainland and Deer Island are closed from time to time due to paralytic shellfish poisoning (PSP), clamming is still pursued in the West Isles area, when permitted.

The presence of PSP has been the main limiting factor to a clam fishery in the West Isles area. PSP is caused by a bloom of a species of plankton that is fed on by the filter-feeding clams. The plankton is harmless to the clam but potentially fatal to humans when the toxin is concentrated. At present, the clam fishery is small scale, causing only minor disturbance to muddy intertidal areas. This fishery is not viewed as being overly disruptive to the marine community at its present scale.

Resource Management Guideline:

(1) Commercial and domestic fisheries for clams would continue in a national marine park under the appropriate DFO regulations.

5.1.7 Aquaculture

Aquaculture in the West Isles presently pertains to the cage-rearing of salmonids. However there is a great potential for the cultivation of many other marine species, from fish (i.e. halibut) to shellfish (i.e. blue mussels) to algae (irish moss).

An aquaculture program commenced in the study area in June of 1978 with the construction of several fish pens in the Richardson-Lords Cove area of Deer Island. Atlantic salmon and rainbow trout are raised for national and international markets. It is generally recognized there is large growth potential for cage-rearing salmonids in the West Isles area. The area's high productivity and relatively warm winter temperatures make some areas within the proposed marine park some of the prime sites for aquaculture in Eastern Canada.

Facilities for this type of aquaculture include large floating cages with some shore based buildings. Sites are limited by shelter, water depth and rate of water exchange.

No major resource concerns have been identified for the cage-rearing of salmonids in the West Isles area. There may possibly be a build-up of feces and food under the cage sites causing local anaerobic conditions. Environmental concerns must be examined on a site by site basis, taking into account such factors as the flushing rate and type of habitat.

Cage-rearing salmonids can take up a large surface area. This may be significant in critical areas, conflicting with

such surface uses as seabird staging areas or park facilities.

Resource Management Guidelines:

(1) The cultivation of salmonid and other species of fish would continue in a national marine park, at sites approved by Parks Canada, DFO and DOT, provided all normal regulatory requirements are satisfied.

(2) Parks Canada and DFO would survey all potential aquaculture sites within the park area. Each site would be assessed for its rearing potential and subjected to an environmental assessment. A plan for managing cage-rearing aquaculture projects would then be developed. In general, cage-rearing of salmonids would not be hindered by a national marine park.

(3) Parks Canada, DFO and DOT, in consultation with the fishing industry, would jointly develop and enforce regulations regarding the conduct of fish culture operations in regard to the location and areal extent of cages, the type and arrangements of moorings, the disposal of refuse and offal, the cleanliness and sightliness of facilities, the control of seals and other predators and the removal of redundant aquaculture equipment. This would encourage the orderly development of the industry and ensure its compatibility with Parks Canada's objectives for a national marine park.

(4) Further study of the environmental consequences of cage-rearing salmonids is recommended.

5.1.8 Potential New Fisheries

There is considerable potential for the development of new fisheries in the West Isles study area. It would not be the intention of a national marine park to interfere with the evolution or future viability of the commercial fishing industry. The draft National Marine Parks Policy makes the following statement with regard to new fisheries (Section 2.3.8):

> "The establishment of any fishery, including aquaculture, which is not incorporated within a current fisheries management plan will require joint approval by Parks Canada and the Department of Fisheries and Oceans, and will be subject to prior completion of stock assessment and environmental impact studies".

Resource Management Guideline:

(1) New fisheries may be approved in a national marine park subject to Parks Canada's objectives for the park, and the appropriate DFO regulations, in consultation with the local fishing industry. Stock assessments and environmental impact studies would have to be completed prior to approval.

5.2. Water Quality

The maintenance of a high level of water quality is essential to the well being of any marine community. Water quality is a term encompassing a wide subject area but can be defined as the physical and chemical properties of water that, in the case of a marine park, are within a range that allows the maintenance of a healthy marine ecosystem.

Potential threats to water quality in the proposed national marine park may come from two main sources. The most important would be external pollution sources from Saint John harbour, Letang Inlet, the St. Croix River, and local commercial shipping traffic. Secondly, local communities also generate sewage and fish processing waste. At present, however, water quality in the West Isles area is good.

The sewage disposal system of the communities on Deer Island consists primarily of septic tank systems, of which a considerable number are directly connected to outfalls to the sea. Since the present volume of sewage effluent is very small, the damage from pollution has been limited to date. Areas already affected include the intertidal zone where sewage outfalls are concentrated, and the soft bottom habitat of Lord's Cove and embayments such as Leonardville Harbor where flushing rates are very low. Consideration should be given to the future treatment of sewage from these communities.

Shoreline developments in the study area and along the mainland coast are related primarily to fishing activities. For the most part, they have a very limited and localized impact on the marine environment.

There are numerous regulations in place regarding the dumping of any substances into marine waters. The Ocean Dumping Control Act and the Fisheries Act both cover dumping of any deleterous substances into tidal waters. The Fisheries Inspection Act covers the dumping of residue from fish processing plants. These acts are comprehensive but the maintenance of water quality requires monitoring and enforcement.

One of the greatest potential threats to water pollution in the West Isles area comes from the possibility of an oil spill. There is an important tanker route into Saint John and prevailing currents may take a Saint John oil spill directly to the West Isles.

Some concern has been expressed about some local commercial activities threatening water quality. A pulp mill near the Letang Estuary has caused localized water quality problems from the deposition of excessive organic matter in the estuary. However, at present, there is no evidence to suggest that it is affecting water quality in the study area.

Presently, the Canadian Coast Guard has manpower and equipment to respond to marine environmental emergencies, especially oil spills. A marine emergency response centre has been established at the St. Andrews Biological Station to provide an initial response capability for local oil spills including those which occur in the West Isles area. Equipment is also located in Saint John under the direction of the Coast Guard. There is a multi-agency "Regional Environmental Emergency Team" which acts as an advisory and consultative body on water quality and response to marine environmental emergencies. This team has representatives from Department of Fisheries and Oceans, Environment Canada, and Transport Canada as well as the province of New Brunswick.

Resource Management Guidelines:

(1) Parks Canada, as a member of the Regional Environmental Emergency team, would work closely with other team members to ensure that responding agencies adequately

consider park management requirements in their response to environmental emergencies, such as spills of oil or other chemicals. A co-ordinated emergency plan would be developed to determine response capability and procedures.

(2) Parks Canada would co-operate with other federal and provincial agencies to monitor and mitigate external threats to the quality of marine park waters.

(3) Parks Canada shore based facilities should be equipped with high quality sewage treatment capability.

(4) Major wharfs run by Parks Canada should be equipped with toilets and pump out facilities for visiting boats with holding tanks for sewage.

(5) Boats owned by Parks Canada which have toilet facilities and those used for tour boats within the proposed national marine park should be equipped with sewage holding tanks.

(6) Parks Canada wardens should assist the Environmental Protection Service (EPS) to enforce the Ocean Dumping Control Act and DFO regarding the water quality provisions of the Fisheries Act and Fisheries Inspection Act within the boundaries of the proposed national marine park.

5.3 Local Non-Commercial Resource Harvesting

At present, local residents harvest various marine organisms for domestic consumption. These include clams, periwinkles, and various fishes. There is no real data on the amount or

type of organisms taken. Local residents have expressed concern that they would not be permitted to continue this non-commercial harvesting if a national marine park was established.

Parks Canada's draft National Marine Parks Policy (Section 2.2.9) provides that the traditional harvesting of such resources could continue subject to ecosystem protection and the maintenance of viable populations.

Resource Management Guideline:

(1) Local residents could continue to harvest marine organisms on a non-commercial basis in a national marine park subject to DFO regulations.

5.4 Commercial Shipping

Presently, the West Isles area is used as a minor commercial shipping route. Ships headed for Eastport, Maine, St. Andrews, and Bayside (on the St. Croix River) all travel through Head Harbour Passage. For St. Andrews and Bayside, ships then use Western Passage before entering Passamaquoddy Bay.

There is no alternative to the above route. Letete Passage is too narrow and dangerous and the bridge is too low at Lubec, Maine to permit large ships a straight run through Western Passage.

Cargos carried by commercial shipping vessels in the West Isles area are variable. The major items shipped into or out of Bayside include concentrated orange juice, potatoes, wood products and tuna. Currently, there are approximately

60 ships per year using the route and a marginal increase is predicted over the next decade. Improvements to the Bayside facilities are being considered. There is currently consideration being given to the establishment of a coal fired generating station in Eastport, Maine which would involve the shipment of coal through Head Harbour Passage.

The major resource concern associated with commercial shipping is the loss of cargo, particularly petroleum products. Head Harbour Passage is a difficult route for shipping because of the extreme tidal currents, numerous shoals and frequent presence of fog. A recent proposal for a supertanker port at Eastport was rejected because of these navigational difficulties and the ecological importance of the surrounding waters. The presence of a national marine park in the area would give additional strength to arguments against large shipments of oil through the area.

Current levels of commercial shipping are manageable and do not present a concern. This activity would continue to be managed according to current practices by Transport Canada.

Resource Management Guideline:

(1) No additional regulations regarding commercial shipping are considered necessary at present.

5.5 Sport Hunting

Sport hunting in the West Isles area is limited and confined primarily to the hunting of sea ducks. The West Isles area has two seasons for waterfowl. From October 18 to January 7, licensed hunters can shoot ducks, geese (other than Brant) and snipe. The second season occurs from January 30 to

February 25 when scoter, eider, oldsquaw ducks and mergansers may be shot in coastal waters only. This winter sea duck hunt takes place along the New Brunswick shore of the Bay of Fundy from Saint John to the U.S. border. The shore zone of the Mascarene Peninsula is used by local residents for hunting waterfowl. White-tailed deer are also hunted in the West Isles area.

Consistent with the Parks Canada Policy for national parks, sport hunting would not be permitted in a national marine park. Since the land base of the proposed park would be very small, park establishment would have an insignificant impact on the hunting of white tailed deer. While reliable data is not available on the winter sea duck hunt, it would also appear that the extent of lost hunting opportunities would be very small.

Resource Management Guideline:

(1) Sport hunting would not be permitted within the boundaries of the proposed national marine park.

6.0 VISITOR UNDERSTANDING, APPRECIATION AND ENJOYMENT

6.1 Visitor Use and Park Development Options

As part of this feasibility study, three possible options for visitor use and park development have been prepared to illustrate various alternatives of what a national marine park could look like in the West Isles area. These options also permit Parks Canada to estimate approximate costs for park development, operation and maintenance (see Section 6.2). Whether or not a national marine park in the West Isles is feasible will depend in part on the degree to which the objectives for visitor use could be achieved. The options presented are not final plans but are concepts developed to assist in the assessment of feasibility. None of the options may be ideal and combinations of their respective features may be possible. There is no commitment by Parks Canada at this time to the development of the specific facilities and services described. Should agreement be reached to establish a national marine park, a final concept could then be developed following public consultation.

The configuration of the land mass, the location of established communities, industry and infrastructure, and most importantly, the characteristics of the marine resource itself, such as environmentally sensitive resources, significant habitats, and other environmental factors, have all influenced the options for the type, location and intensity of visitor activities.

Moreover, the consideration of the potential impact of a national marine park on the adjacent communities and the lifestyle of local residents largely accounts for the major differences in the designs of the visitor use options. The

most distinguishing feature among the three options is the different geographic distribution of the recommended recreational facilities and services. In Option 1, the focus of park activity is located on Green Point, whereas in Option 2, facilities are more evenly distributed among the mainland and Deer and Campobello Islands. In Option 3, most park visitors would be initially attracted to the St. Andrews area and visit the park via tour boats from that location. Campobello Island also figures prominently in Option 3.

Features Common To All Options

While each option displays a different approach to providing for visitor use in the West Isles, there are aspects which are common to them all.

First and foremost, all options provide for the continuation of the commercial fishery, and the proposed locations for park facilities all take into consideration, to the maximum extent possible, the need to minimize any interference with the fisheries' operations. This is particularly the case for facilities on the offshore islands, SCUBA diving sites and tour boat routes.

Secondly, all of the recommended Resource Management Guidelines outlined above in Section 5.0 would apply to all three options.

Thirdly, the range and type of recreational activities and associated facilities being proposed remain essentially the same throughout all three options. An assessment was conducted of all possible recreational activities that could conceivably take place in the West Isles environment, and only those activities considered compatible with marine park objectives have been incorporated into the options.

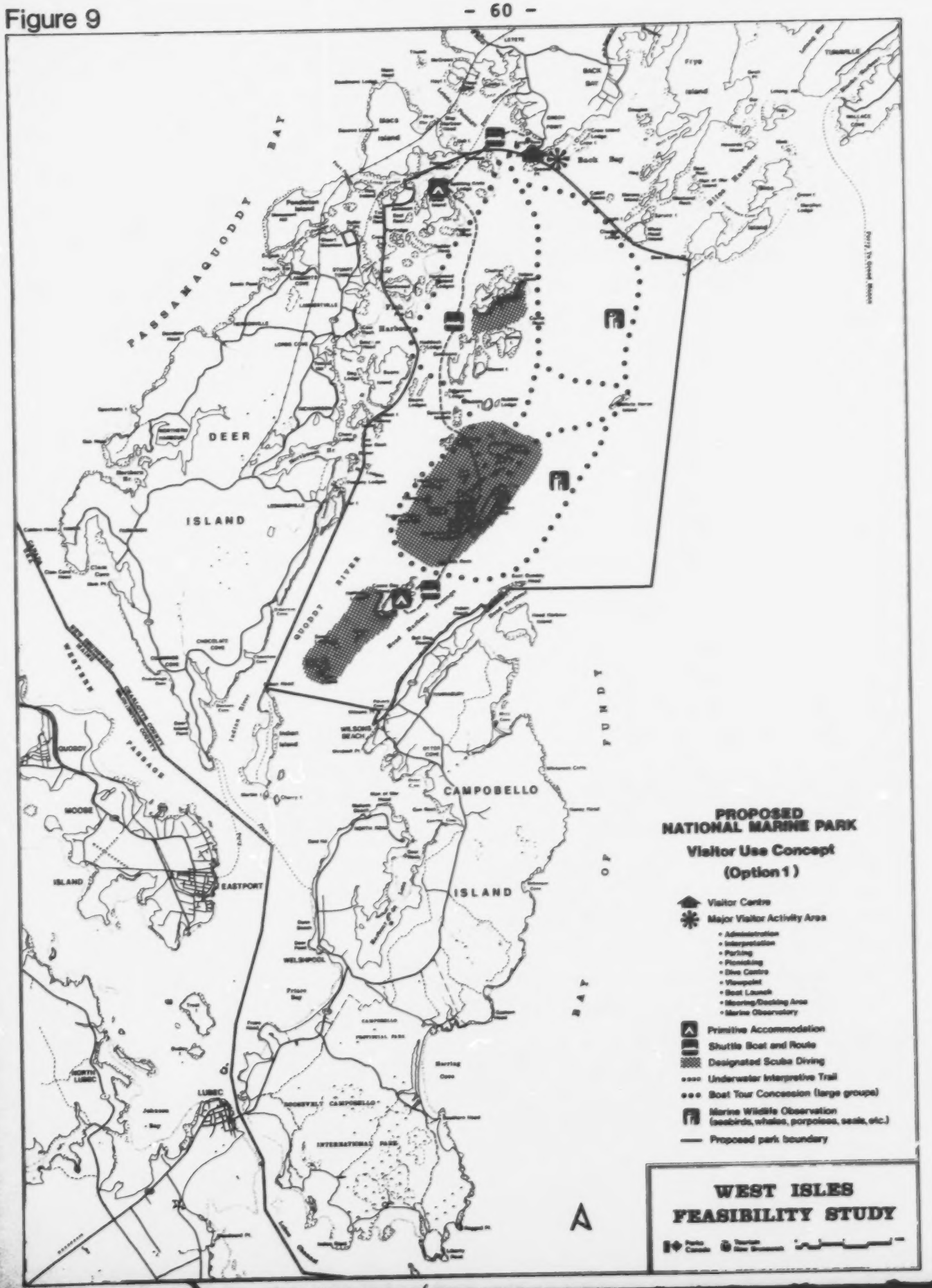
OPTION 1

The most distinguishing feature of Option 1, illustrated on Figure 9, is the location of the park's Visitor Reception Centre (VRC) and Administration complex at Green Point. The VRC would act as the central focus of most park activities. The majority of park visitors would arrive at the VRC before visiting any other portion of the park, and would embark on a boat tour throughout the park or take a shuttle boat service to facilities on the offshore islands. In addition to parking and picnicing facilities, it is proposed that the VRC itself could contain an underwater observatory, a viewpoint, and an interpretive display to introduce the visitor to the marine environment and to promote a broad understanding of marine ecology and processes, and the intricate relationship between man and the sea. The objective of an underwater observatory would be to expose park visitors directly to an underwater experience. However, detailed engineering studies would be required to determine its feasibility. At the VRC, visitors would be informed of the range of opportunities available in the marine park and of the regulations that would apply.

A dive centre would also be located in the VRC where all recreational divers would be required to register before embarking on a diving excursion in the park. In this option, all boat tours and shuttle boats would embark from a park wharf built in Kelly's Cove.

Park administrative functions and the offices of the park warden service would be located at the VRC facility.

Figure 9


PASSAMAQUODDY BAY
DEER ISLAND
QUODDY RIVER
WESTERN PASSAGE
CAMPOBELLO ISLAND
FUNDY
BAY OF FUNDY
EASTPORT
MOOSE ISLAND
LUBEC
WELSHPOOL
WILSONS BEACH
PROPOSED
NATIONAL MARINE PARK
Visitor Use Concept
(Option 1)
Visitor Centre
Major Visitor Activity Area
• Administration
• Interpretation
• Parking
• Picnicking
• Dive Centre
• Viewpoint
• Boat Launch
• Mooring/Docking Area
• Marine Observatory
Primitive Accommodation
Shuttle Boat and Route
Designated Scuba Diving
Underwater Interpretive Trail
Boat Tour Concession (large groups)
Marine Wildlife Observation
(seabirds, whales, porpoises, seals, etc.)
Proposed park boundary
WEST ISLES
FEASIBILITY STUDY
A

Other park facilities would be located on some of the small offshore islands. Day use and primitive campsites would be provided on Casco Bay, Sandy, and Parker Islands with access provided by a regular shuttle boat service. Boat mooring sites would be provided at designated locations for the use of park visitors arriving in their private craft. Tour boats would take visitors through the archipelago, past the East Quoddy Head lighthouse and out to White Horse Island to view the bird colonies. Areas designated for SCUBA diving include waters in the vicinity of Barnes and Adams Islands, White, Spruce and Sandy Islands, and Casco Bay Island south to Popes Island.

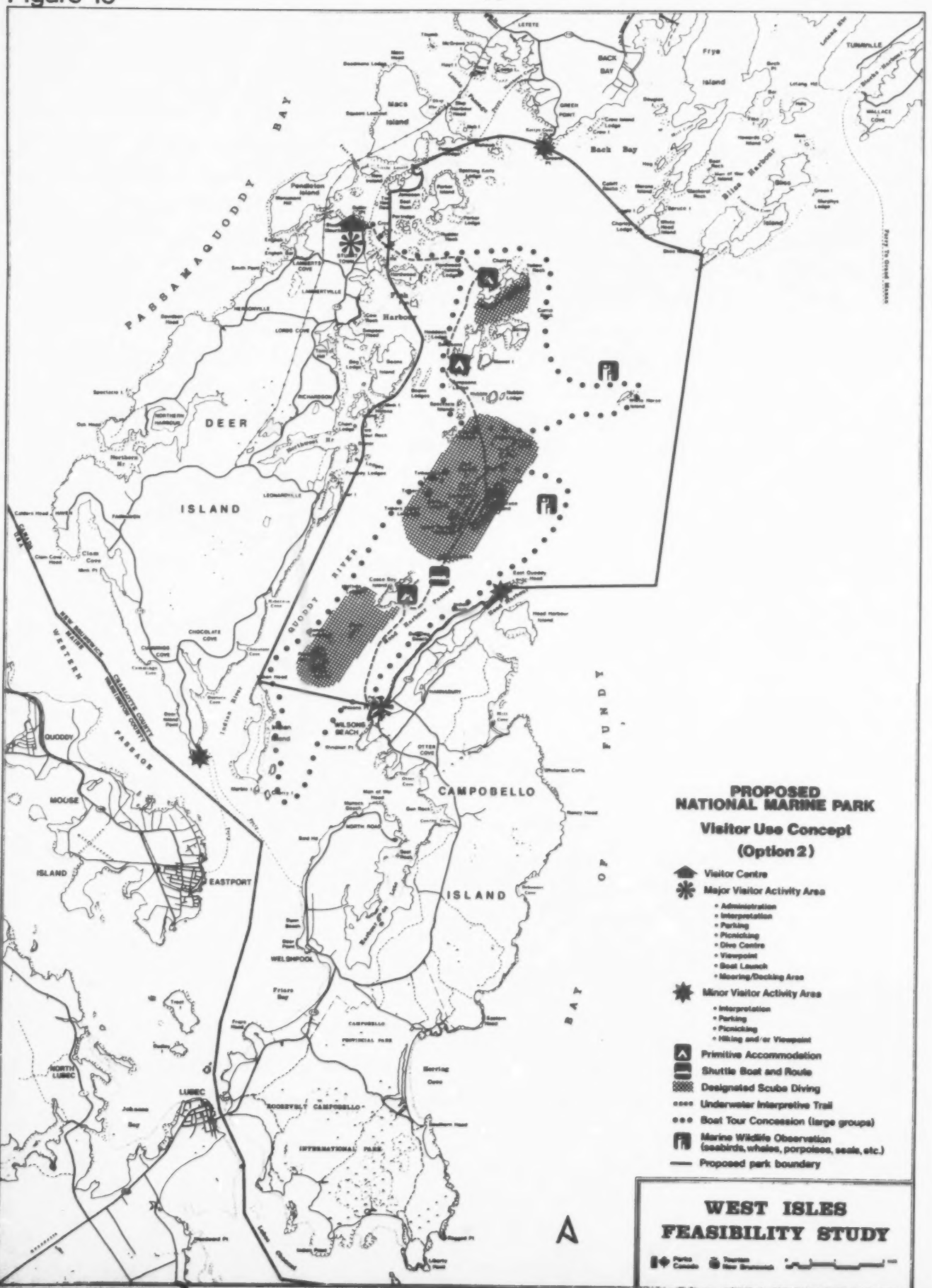
OPTION 1 INVOLVES NO PARK DEVELOPMENT ON DEER AND CAMPOBELLO ISLANDS.

OPTION 2

This option is characterized by a decentralization of smaller scale park facilities and services in a number of locations (Figure 10). In this option, the main VRC park administration complex would be located on the northern tip of Deer Island. The VRC would perform the same functions as outlined above for Option 1, but would not include a marine observatory. A park wharf would also be provided at this location to accommodate the tour boats and the offshore island shuttle service. In contrast to Option 1, park development on Green Point would consist of a smaller visitor activity area providing facilities for parking and picnicing with a viewpoint and interpretive displays.

A second small visitor activity area similar to that provided on Green Point, would be located on Deer Point. In conjunction with the private campground development

Figure 10


PASSAMAQUODDY BAY
DEER ISLAND
QUODDY RIVER
WESTERN PASSAGE
QUODDY
MOUSE ISLAND
EASTPORT
WELSHPOOL
CAMPOBELLO ISLAND
BAY OF FUNDY
LUBEC
NORTH LUBEC
ROOSEVELT CAMPOBELLO INTERNATIONAL PARK
WILSONS BEACH
Back Bay
Frye Island
PROPOSED NATIONAL MARINE PARK
Visitor Use Concept
(Option 2)
Visitor Centre
Major Visitor Activity Area
• Administration
• Interpretation
• Parking
• Picnicking
• Dive Centre
• Viewpoint
• Boat Launch
• Mooring/Docking Area
Minor Visitor Activity Area
• Interpretation
• Parking
• Picnicking
• Hiking and/or Viewpoint
Primitive Accommodation
Shuttle Boat and Route
Designated Scuba Diving
Underwater Interpretive Trail
Boat Tour Concession (large groups)
Marine Wildlife Observation (seabirds, whales, porpoises, seals, etc.)
Proposed park boundary
WEST ISLES FEASIBILITY STUDY

currently on Deer Point, this facility would provide additional parking and picnic sites with a viewpoint and interpretive displays concentrating on the Old Sow Whirlpool.

Offshore island opportunities also include day use and primitive camping, but in this option they are located on Adams, Simpson, Spruce and Casco Bay Islands. The areas designated for SCUBA diving are the same as those in Option 1. Optional tour boat routes are illustrated on the map and extend further south to include a pass by Indian Island to interpret its historical significance to the area. The optional tour boat routes could, in fact, apply to any of the three options.

In recognition of the many visitors that travel to Campobello Island each year, primarily to visit the Roosevelt Estate, this option provides for two visitor activity areas on Campobello Island in the vicinity of Wilsons Beach and the East Quoddy Head lighthouse. The former would be a major visitor activity area, basically providing similar services to those offered at the VRC on Deer Island. The visitor activity area at East Quoddy Head would be similar to that provided at Green Point and would take particular advantage of the lighthouse complex and its high interpretive potential, the excellent views of the marine park area, and the best land based location in the area for watching whales and other marine mammals and birds.

OPTION 2 INVOLVES DISPERSED DEVELOPMENT ON ALL THREE LOCATIONS OF GREEN POINT, DEER ISLAND AND CAMPOBELLO ISLAND.

OPTION 3

The principle feature that distinguishes Option 3 from the other two options is the location of the VRC in the town of St. Andrews, as illustrated on Figure 11. Since the VRC represents the central focus of visitor activity, the majority of park visitors would travel to St. Andrews first before proceeding by boat to the marine park area. This option takes maximum advantage of the existing tourism infrastructure, particularly access and restaurant and accommodation services, that already exist in St. Andrews.

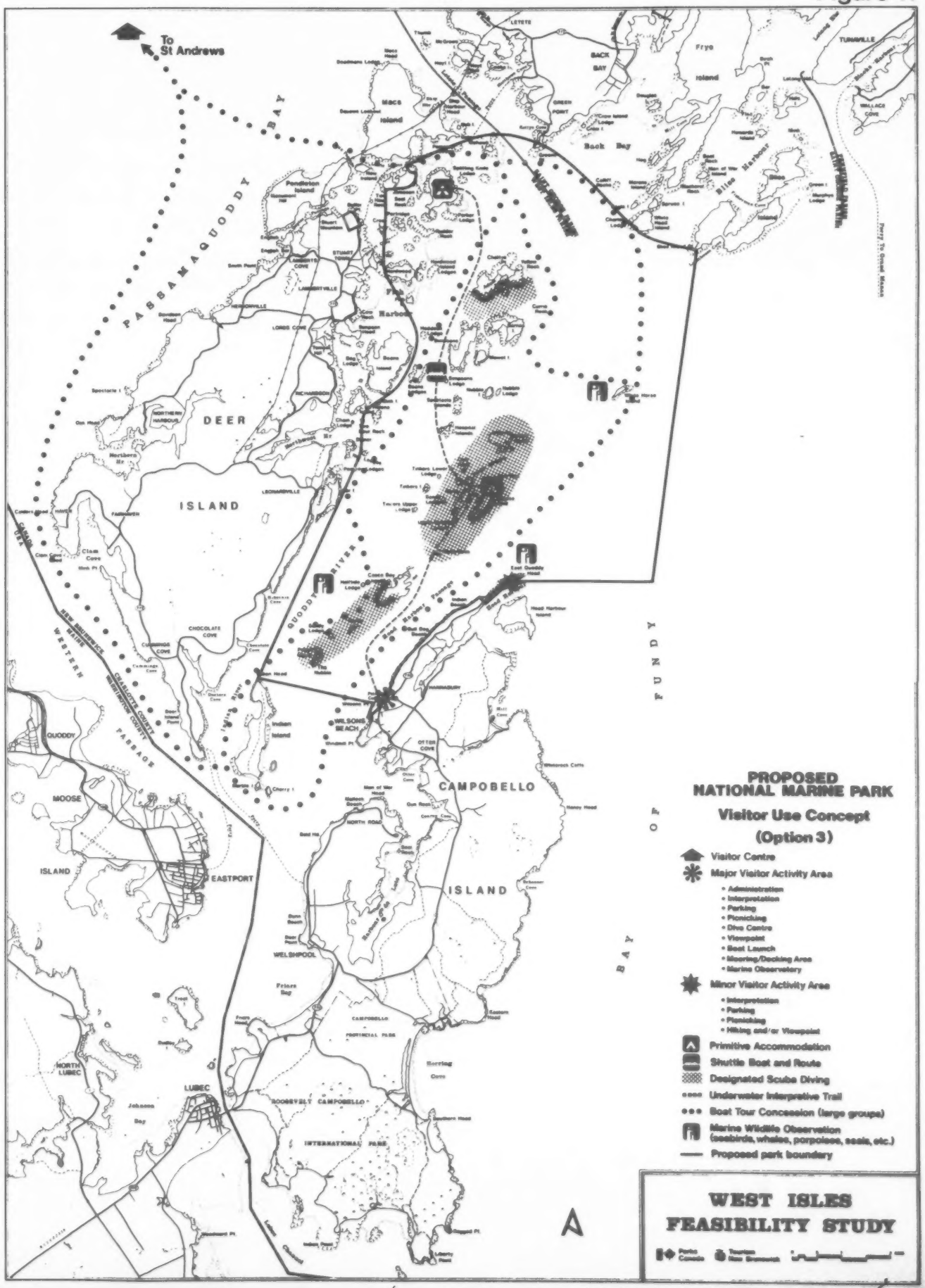
The VRC complex in St. Andrews would be essentially the same as those mentioned above in the previous options, with the exception that no underwater observatory would be provided and the dive centre, the park administration offices and the base for the shuttle boat service to the offshore islands would be located near Wilsons Beach on Campobello Island. It is essential for these services to be located in close proximity to the park itself. As with the other two options, the tour boats would operate from the VRC, in this case, from St. Andrews. They would follow a route such as that shown on Figure 11 which, while considerably longer, would take a similar route as in the other options through the marine park area.

This option also provides for the same visitor use opportunities on and among the offshore islands as described in the other two options.

Campobello Island also figures prominantly in this option in much the same way as it does in Option 2, with visitor activity areas provided in the vicinity of Wilsons Beach and on East Quoddy Head.

OPTION 3 INVOLVES NO PARK DEVELOPMENT ON GREEN POINT OR ON DEER ISLAND.

Figure 11


To St Andrews
PASSAMAQUODDY BAY
DEER ISLAND
CAMPOBELLO ISLAND
MOOSE ISLAND
EASTPORT
QUODDY
LUBEC
NORTH LUBEC
WELSHPOOL
WILSONS BEACH
CHOCOLATE COVE
NORTHERN HARBOUR
LEONARDVILLE
ROOSEVELT CAMPOBELLO INTERNATIONAL PARK
BAY OF FUNDY
PROPOSED NATIONAL MARINE PARK
Visitor Use Concept
(Option 3)
Visitor Centre
Major Visitor Activity Area
• Administration
• Interpretation
• Parking
• Picnicking
• Dive Centre
• Viewpoint
• Boat Launch
• Mooring/Docking Area
• Marine Observatory
Minor Visitor Activity Area
• Interpretation
• Parking
• Picnicking
• Hiking and/or Viewpoint
Primitive Accommodation
Shuttle Boat and Route
Designated Scuba Diving
Underwater Interpretive Trail
Boat Tour Concession (large groups)
Marine Wildlife Observation (seabirds, whales, porpoises, seals, etc.)
Proposed park boundary
WEST ISLES FEASIBILITY STUDY

6.2 Approximate Costs of Park Development, Operations and Maintenance

The approximate capital and operations and maintenance costs, as well as manpower requirements, have been estimated on the basis of the three visitor use options. The capital and operations and maintenance (O&M) dollars are quoted below in '000s and are cumulative for the first ten years of park establishment. The manpower requirements reflect anticipated staffing levels with the park fully operational (by Year 10). They are quoted in person-year (PY) equivalents, recognizing that some of the O&M positions could be put out to contract.

	Option 1	Option 2	Option 3
Capital	13,341	14,514	13,943
O&M	7,277	7,693	5,707
PYs	26	31	26

6.3 Estimated Numbers of Park Visitors

As part of the socio-economic impact study comissioned by Parks Canada and Tourism New Brunswick (see Section 8.0), an attempt was made to estimate the number of visitors that would be attracted to a national marine park in the West Isles. The estimates vary considerably with each park option, and are therefore discussed individually by option below.

Since the future of the Deer Island-Letete ferry is unknown, all visitor forecasts have been developed under the assumption that no improvements to the existing ferry system would take place over the ten year forecast period.

Further, it is not possible to reflect the impact on visitation arising from other future possible private or public sector initiatives in the area. Marketing or promotion efforts are assumed to parallel those of other national parks.

Existing Tourist Visitation to the West Isles Area

The West Isles area currently experiences tourism traffic throughout the year with a distinct peak occuring in the summer months, especially July and August. In order to estimate the additional, or incremental, visitation due to the park, it is necessary to estimate the visitation that already occurs.

For the purpose of this analysis, there are three distinct tourist destinations in the West Isles area: Deer Island, Campobello Island and St. Andrews.

The most popular tourist destination on Campobello Island is the Roosevelt Estate in the Roosevelt-Campobello International Park which attracts approximately 135,000 people a year. Since the estate represents the major attraction on the island, it is assumed that this figure provides a reliable estimate of total tourism visits to Campobello Island. With respect to Deer Island, the most reasonable indication of existing tourist visitation is the amount of tourist traffic on the Deer Island ferry, calculated to be approximately 15,000 visitors. St. Andrews currently experiences an annual visitation of approximately 69,000 tourists.

From a regional perspective, the West Isles area, including Campobello Island and St. Andrews, receives an annual visitation of approximately 220,000 tourists, 60% of which is accounted for by Campobello Island alone. An analysis of trends in visitation indicates that tourism activity in Charlotte County as a whole over the period 1980-1983 is at best, stable.

The seasonal distribution of this visitation is also of interest and is relatively consistent throughout the area. Almost 50% of the visitors come in July and August, with the shoulder seasons of May-June and September-October accounting for a further 25%. The six month period of November to April accounts for the remaining 25%.

Should a national marine park be established, it would attract new visitors to the area who would probably not otherwise come. This incremental visitation is the best indicator of the impact the park would have on tourism trends and the tourist economy of the region. In general, it is estimated that a national marine park would attract an additional 20,000 to 30,000 people to the West Isles area each year after Year 10 of park establishment. This would represent an increase over existing levels of visitation of approximately 9 to 13 percent.

Option 1

Since this option involves development concentrated primarily on Green Point, with smaller facilities on the offshore islands, it is not anticipated that there would be any significant increase in visitation to either Deer or Campobello Islands. The forecast reflects expected visitation to Green Point only.

As mentioned earlier, the most reasonable measure of existing visitation was considered to be the amount of tourist traffic currently using the Deer Island ferry. The results of the 1980 Auto Exit Survey conducted throughout New Brunswick yielded specific information on travel patterns to Deer Island. Based on these survey results, it was estimated that the existing tourist traffic on the Deer Island ferry was approximately 15,000 visitors per year. It was assumed that, if the park were present, these visitors would visit the Green Point facilities.

Annual visitation growth rates in the initial years vary according to the park development schedule which reflects the park's ability to "capture" existing visitation and to attract new visitors. Upon examination of visitation levels during the development of other national parks, it is assumed that park visitation would increase by 5% annually in the first three years, by 10% in Years 4 and 5, by 15% in Years 6,7 and 8, back to 10% in Year 9 and plateau at 5% in Year 10 and thereafter.

Expected visitation figures have also been estimated for divers and boaters as specialized user groups. It has been estimated that there are approximately 100,000 certified SCUBA divers in the market area of Ontario, Quebec, the Maritimes and the northeastern U.S. Given the location of the proposed marine park in relation to the majority of these divers, the park should be capable of attracting about 2.5% of the total market by Year 10, or about 2,500 divers, increasing from an initial visitation in Year 1 of about 300 divers.

Existing visitation to the West Isles area by boaters is very low, averaging less than 200 persons per year. It is to be expected, however, that yachtsmen from marinas in the Bay of Fundy and the northeastern U.S. would likely visit a national marine park. The total visitation by private boaters would likely remain very small in relation to land based visitors. It has been estimated that visitation from private boaters would increase to approximately 275 persons by Year 10.

The number of total visitors attracted to a national marine park under visitor use Option 1 would be approximately 20,600 in Year 1 and would increase to approximately 51,000 in Year 10. This would represent in Year 10 an incremental visitation, or an increase over existing tourism levels, of 22,800 visitors during the peak and shoulder season's (May to October) or 30,000 for the entire year.

Option 2

The expected visitation for Option 2 is somewhat more difficult to estimate since the park facilities are distributed over both Deer and Campobello Islands, as well as the mainland. Since Campobello Island is more removed from the rest of the West Isles and has a bridge to the U.S. mainland, its visitation component is calculated separately from that for Deer Island and Green Point.

Campobello Island Portion (Option 2)

Under Option 2 it was considered that park visitation to Campobello Island would come from two sources: 1) by capturing a share of those visitors already visiting the Roosevelt Estate on Campobello Island; and 2) by capturing a share of the total resident and non-resident visitors to Charlotte County.

Approximately 135,000 people currently come to the island to visit the Roosevelt Estate. This figure is not expected to increase substantially, according to Estate officials. However, if a national marine park were established, it was estimated that visitation to the estate would increase by .5% annually, raising its projected visitation to 141,200 by Year 10 of park operation. As in Option 1, the projected visitation to national marine park facilities on Campobello Island, at Wilsons Beach and East Quoddy Head, is based on an assumed capture rate. Based on discussions with Estate officials and tour bus operators and the fact that a well-known tourist attraction is already in place on the island, a larger number of visitors are expected to visit this portion of the park than at Green Point. Therefore, the capture rate increases from 5% in Year 1 to 40% in Year 10. Thus, in Year 10, approximately 56,500 visitors from the Roosevelt Estate would be attracted to the marine park.

In addition to this figure, it has been estimated that an additional 14,340 peak season visitors from Charlotte County would be attracted to the Campobello portion of Option 2 in Year 10 of park operation. These visitors have been categorized as day users, overnight visitors and those visiting friends and relatives. The same annual rates of increase based on the phasing of park development have been used as were used in the Option 1 calculations. Further, the same visitation estimates for divers and boaters as calculated for Option 1 have been applied to Option 2, with some allowance made for different development schedules.

Total annual visitation to park facilities on Campobello Island in Option 2 would be, then, the sum of expected

visitors from the Roosevelt Estate, other visitors from Charlotte County, and divers and boaters. This total visitation would increase from approximately 17,900 in Year 1 to about 98,100 in Year 10. The presence of the park would result in an increase in visitation to Campobello Island of 15,500 visitors over the peak and shoulder seasons and 20,700 visitors over the course of the year.

Deer Island and Green Point Portion (Option 2)
In Option 2, a major visitor activity area would also be located on Deer Island with a minor facility on Green Point. The existing level of visitation to both of these destinations is estimated to be the same as that calculated for Option 1, of approximately 15,000 visitors.

Because the Deer Island ferry system is already operating at maximum capacity during July and August, this level of visitation over the peak season is held constant for the ten year forecast period. Some increase in visitation to Deer Island would, however, occur during the shoulder seasons, and therefore the total expected visitation to Deer Island would be approximately 20,200 visitors in Year 10. This would result in an incremental visitation on Deer Island of 5,000 people over the year for this portion of Option 2. A certain proportion of these visitors would also visit the minor visitor activity area on Green Point. It must be recognized, however, that should the Deer Island ferry system be improved and its capacity expanded, the increased visitation to both Deer Island and Green Point would increase accordingly.

Therefore, the total projected visitation to a national marine park in the West Isles under Option 2 would include the 98,100 on Campobello Island plus the 20,200 from Deer Island and Green Point for a grand total of 118,300 visitors in Year 10 of park operation. This would represent a total incremental visitation to the West Isles area of approximately 25,700 visitors over and above existing tourism levels.

Option 3

Park facilities in Option 3 are confined primarily to St. Andrews and Campobello Island. The proposed developments for Campobello are similar in type and location as in Option 2, and therefore the annual visitation estimate for the Campobello portion of Option 2 of approximately 98,100 visitors would also apply to Option 3 in Year 10.

In the case of St. Andrews, it is assumed that the construction of park related facilities would not begin until Year 5 for the Visitor Reception Centre and Year 6 for the boat tour linkages. Since these facilities would not be operational until Year 7, it is only in that year that the park would begin to attract a significant number of visitors to St. Andrews.

On the basis of past visitation trends, it is estimated that the annual tourist visitation to St. Andrews in 1983 was approximately 69,000 people. For the first six years of park establishment, it is assumed that this level of visitation to St. Andrews would remain fairly constant. On the basis of past experience at the St. Andrews Blockhouse and the Huntsman Marine Aquarium, a park capture rate of approximately 35% would appear realistic. Thus, the Year 7

visitation to the park from St. Andrews is estimated to be 24,200 visitors. In Years 8,9 and 10 the visitation is estimated to grow in accordance with the rates established for Option 2, that is 15% in Year 8, 10% in Year 9, and 5% in Year 10. Since no park facilities would be operational in St. Andrews until Year 7, most park visitation in Option 3 would take place on Campobello Island for the first six years.

Divers would not be expected to visit the St. Andrews portion of the marine park in significant numbers since the dive centre would be located on Campobello Island. Boaters would be expected to visit St. Andrews, and based on historic boat visitation, existing visitation is estimated to be 200 boaters, increasing to 300 by Year 7 of park development. The total annual visitation for the St. Andrews portion would be approximately 43,200 visitors in Year 10, which, when combined with the Campobello complement, would bring the grand total for Option 3 in Year 10 to 141,300 visitors.

This level of visitation would result in an annual increment after Year 10 of 10,500 visitors to St. Andrews. Combined with the incremental visitation of 20,700 on Campobello Island, Option 3 would result in a total incremental visitaton of 31,200 visitors to the region.

Table 1 below provides a summary of expected visitation levels for all three options.

TABLE 1: VISITOR FORECASTS - PROPOSED WEST ISLES NATIONAL MARINE PARK

Visitor Use Option	1		2		3	
Year	1	10	1	10	1	10
Location						
Green Point	20,600	51,000	--	--	--	--
Campobello	--	--	17,900	98,100	17,900	98,100
Deer Island	--	--	20,200*	20,200*	--	--
St. Andrews	--	--	--	--	200	43,200
TOTAL	20,600	51,000	38,100	118,300	18,100	141,300
Incremental** Visitation (Year 10)	--	30,000	--	25,700	--	31,200

* - a portion of those visitors to Deer Island would also visit park facilities located at Green Point

** - an increase in addition to existing visitation levels as a result of establishment of a national marine park

6.4. Management of Park Visitor Activities

Parks Canada has a dual mandate to meet in the management and operation of national parks and national marine parks: to protect and conserve the parks natural resources, and to encourage and provide for visitor understanding, appreciation and enjoyment. While many situations could arise in any park situation to bring these two objectives into conflict, park managers have successfully adopted management practices to regulate visitor use so as to both protect the resource and provide for a positive visitor experience.

In national marine parks, the situation would be much more complex than in their terrestrial counterparts due to the continuation of such activities as commercial fishing. As is recognized throughout this report, it is essential to the continued viability of the commercial fishery in the West Isles that it not be hindered by the activities of park visitors.

The following recommended management guidelines have been prepared to define the ways in which the activities of park visitors would be managed to protect the resource, to provide for a positive visitor experience and to minimize disruption to the operations of the commercial fishery. This discussion is oriented toward recognized issues or concerns regarding park visitor activity and does not address all aspects of park visitor use management.

6.4.1 Recreational Boating

If a national marine park were established in the West Isles, a small increase in the number of recreational

boaters, both in sailboats and motor vessels would occur.

Recreational boating is already occuring in the study area and is increasing in popularity. There are yacht clubs in St. Andrews and in the St. Croix estuary as well as visiting American and Canadian yachtsmen. Approximately 175 persons currently visit Passamaquoddy Bay in their private pleasure craft. These vessels are typically 20-45 feet in length with onboard sleeping, cooking and toilet facilities, and those under 20 feet that are used on day trips for divers and sightseers. A marine park would increase somewhat the numbers of vessels but not necessarily change the types of vessels used in recreational boating.

There are several resource and fisheries concerns associated with recreational boating. Firstly, boating can impair water quality through gas and oil spills and the flushing of sewage. A marine area can also be visually impaired by the dumping of garbage. Recreational boaters can also cause damage to benthic communities when anchoring. Such damage is usually minor but may become significant in high use areas or when anchors drag.

From a fisheries standpoint, there is considerable concern that recreational boaters could cause damage to fishing gear, and disrupt fishing activity and the movement patterns of schooling fish, such as herring. Some fishermen are also concerned that recreational boaters would steal their catch, especially from lobster traps, and that high speed recreational boats would cause a hazard in congested areas.

There is a general provision in Section 22 of the Fisheries Act that protects fishermen from recreational boaters: "... no boats or vessels shall destroy or wantonly injure any seines, nets or other fishing apparatus lawfully set."

Management Guidelines:

(1) Any commonly used anchorage such as those located at dive sites, primitive campsites, and picnic sites, in the proposed national marine park would have fixed moorings placed and maintained by Parks Canada. Recreational boats would be encouraged to anchor only in designated areas. The numbers of moorings in a particular location would be decided on a site by site basis.

(2) Consultations would be held with local fishermen to identify the need for specific regulations to avoid conflicts between visitors and fishing operations. For example, regulations would be established to prohibit recreational boating in close proximity to weirs.

(3) Pamphlets would be made available to recreational boaters visiting the proposed marine park indicating boating regulations and mooring sites and stressing the need to respect fishing boats and gear.

(4) Any direct interference with fishing gear by recreational boats would be dealt with by utilizing and enforcing existing regulations under the Fisheries Act or new regulations, if found necessary, under the National Parks Act.

(5) Information would be provided to recreational boaters on the presence of designated areas for sport diving within the proposed marine park. This information could be given out at park entrances, marinas, visitor centres, and other points of contact with the public. In addition, the Hydrographic Service of DFO would be requested to place designated sport diving areas on its hydrographic charts.

(6) Tour boat operators would be advised to avoid interfering with commercial fishing operations. Tour boat routes would avoid areas of potential conflict with fishing operations.

6.4.2 Recreational SCUBA Diving

One of the great visitor attractions of any marine park is the opportunity to explore underwater life. SCUBA diving offers the best access to the underwater world and would be a popular activity in the proposed national marine park. However, in order to further the conservation of marine ecosystems and to minimize any potential interference with the commercial fishery, recreational SCUBA divers would not be permitted to harvest any marine organisms, dead or alive, within a national marine park.

Local fishermen have expressed concern that sport divers would poach from their fishing gear, especially lobster traps. Currently it is illegal to capture lobster using SCUBA equipment and divers face losing their equipment and being fined if successfully prosecuted.

There is a real safety hazard for divers from surface boats. Sites where divers are present should be marked by a floating divers flag. However, this is not always done. When divers are in an area of active fishing there is potential for conflict. Divers and lobster fishermen both frequent rocky, productive areas in the West Isles. Fortunately, potential conflict is minimized by the present lobster season, which is closed from June 30 to the second Tuesday in November. This eliminates conflict during the major portion of the diving season.

Management Guidelines:

(1) Recreational divers using the proposed national marine park would be required to register prior to diving.

(2) Recreational divers visiting the park would be encouraged to dive in the company of a registered dive guide.

(3) Divers would be required to fly a recognized divers flag to warn surface boaters of their presence; local fishermen, tour boat operators and park visitors would be given information on the location of dive sites and safety precautions to take around divers.

(4) The harvesting by recreational divers of marine organisms, dead or alive, would not be permitted in a national marine park. This includes shell and scallop collecting, spearfishing and similar activities.

(5) Interference with lobster traps and other fishing gear by sport divers would be dealt with through enforcement of existing regulations.

(6) When registering, divers would be advised of all relevant regulations and potential hazards, such as the strong tidal currents.

(7) Parks Canada would promote diver safety and would encourage certification for all divers within the park.

(8) Designated dive sites would be established by Parks Canada in consultation with the local fishing industry. It is recognized that some dive sites may only be available for specific periods to avoid conflict with the fishery.

6.4.3 Recreational Fishing

Recreational fishing has always been permitted in terrestrial national parks and such would also be the case in national marine parks. Permits would not be required for this activity.

Fishermen in the West Isles area have expressed a concern that tourists engaging in recreational fishing may disrupt their traditional fishery. Currently, a moderate groundfish fishery using longlines and handlines from small boats exists within the study area. The main activity occurs in Head Harbour Passage and the area known as the River, and there may be potential for some conflict here.

The most important concern is the possibility of tourists fishing in close proximity to, or even inside, herring weirs. Provisions under Section 21 of the Fisheries Act prohibit others from fishing within a licensed apparatus

such as a herring weir without the permission of the individual holding the license, and this provision would be enforced within a national marine park.

Management Guidelines:

(1) Permits would not be required for recreational fishing.

(2) Recreational fishing would be permitted for all species of fish, with the exception of scallops.

6.4.4 Placement of Park Facilities

A national marine park development in the West Isles area would meet the highest of environmental standards. While it is difficult to write specific guidelines for facility placement at this time, some general guidelines are appropriate.

Management Guidelines:

(1) All Parks Canada development within the proposed national marine park would have to be subjected to the Environmental Assessment and Review Process (E.A.R.P.). It is important that environmental assessments be done early in the planning stage on a conceptual level and again later on a site specific level.

(2) No major developments would occur around major seabird colonies, as identified in Section 3.2.1 of this report.

(3) No development or activity within a national marine park should unduly disturb the seabird or marine mammal concentration areas.

(4) All facility development undertaken by Parks Canada would be located and operated so as to minimize any potential negative impact on the commercial fishery. The location and operating procedures of such facilities would be decided in consultation with local commercial fishermen.

6.4.5 Marine Mammal Observation

The observation of marine mammals, or "whale watching" as it is popularly called, is gaining popularity all over the world. Already in the Bay of Fundy there are commercial whale watching tours operating from Deer Island, Grand Manan, St. Andrews and Lubec, Maine.

The West Isles area offers excellent opportunities for whale watchers. There are a large number of species of cetaceans, ranging from the small harbour porpoise to the large finback whale. Frequency of sightings during the period of July to September is good. Most importantly, the West Isles is easily accessible, unlike most other good whale watching areas. In fact the Inner Quoddy region is one of the few parts of the world that finback whales can be studied at close quarters for extended periods using small boats. The West Isles and vicinity also contains important feeding, rearing and courtship areas for the endangered North Atlantic Right Whale.

Whale watching, if not conducted properly, may cause problems for the whales and could even harm the watchers themselves. In their enthusiasm, whale watchers often get too close to whales. Boats and SCUBA divers observing or playing with the whales could disrupt their behaviour during mating or feeding and cause them to move elsewhere.

Whales can also be disrupted by loud noises or speeding boats.

DFO has no specific regulations regarding whale watching, but has published a set of guidelines that, if followed, should ensure whale watching is safe and that harrassment and disruption of whale behaviour would not occur.

The proposed national marine park has the potential to protect whale habitat and to provide opportunities for many Canadians to view, and better appreciate, marine mammals in their natural environment. Many species use the study area, the most important being the North Atlantic Right Whale. Management strategies would ensure the animals are not disturbed and the quality of water and ecosystem productivity remain unimpaired. The careful management of whale watching activity is a necessary measure to ensure that any potential disturbance is minimized.

Management Guidelines:

(1) Tour boats, including those involved in watching cetaceans, in park waters would be required to have a tour boat license, in which regulations governing the activity would be stipulated.

(2) Whale watching activities conducted in a national marine park would be in accordance with whale watching guidelines and/or regulations established by DFO and/or Parks Canada.

(3) Whale researchers using the proposed national marine park area would be required to submit a research proposal and have it approved by both Parks Canada and DFO. This would follow the procedure now in use in terrestrial National Parks.

7.0 COOPERATIVE MANAGEMENT

7.1 The Need for Cooperative Management

The resource management regime in the marine and coastal environments of Canada is characterized by a multiplicity of jurisdictions. In this regard, the West Isles area is no exception. While Parks Canada would become the lead agency responsible for overall park management, it is recognized that many of those agencies which currently have management responsibilities in the area would retain those responsibilities and continue to perform their respective functions. The draft National Marine Parks Policy specifically provides for the retained jurisdiction by the Department of Fisheries and Oceans (DFO) over the management of fisheries and fish resources and of the Department of Transport (DOT) over marine transportation.

The major actors involved in managing the marine and coastal environments in the West Isles area include seven federal government departments, with twelve individual agencies, and six provincial government departments. In total, these agencies administer approximately 34 pieces of legislation, with numerous regulations, that govern, to one extent or another, marine or coastal activities. Appendix 3 identifies these agencies and summarizes their enabling legislation and programs.

Within such a complex scenario, the development of an effective cooperative management system would be essential if the management objectives of a national marine park were to be achieved. Such a system must be able to simplify and streamline the decision-making process by directly involving

only those key agencies whose participation on an ongoing basis is necessary. It must also clearly identify roles and responsibilities and adopt the most appropriate administrative structure and procedures to ensure coordination.

7.2 The Identification and Role of Lead Agencies

A major component of the proposed cooperative management system for the West Isles involves the identification of key or lead agencies responsible for performing certain management functions within a national marine park. Lead agencies have been nominated on the basis of their current management responsibilities and capabilities, on the geographic area involved, the resources to be managed, available expertise, jurisdictional issues and the type of management function.

The major role of the lead agencies, over and above their regular responsibilities, would be to implement the policies and programs with respect to their activities within a national marine park as agreed upon through cooperative agreements with Parks Canada. They could also undertake planning or other studies or contribute staff or facilities to joint projects. For example, for Fisheries Research Branch in the St. Andrews Biological Station could, upon agreement, be nominated the lead role for fisheries research for park management purposes, just as the Canadian Wildlife Service has conducted wildlife research in the terrestrial parks. As another example, five agencies, each with their own legislative mandate, have responsibilities for water pollution control. It may prove advisable to nominate one lead agency to perform this function with the support of the

others. The relationship between the lead and other agencies would have to be clear and their respective roles and responsibilities well documented. Such arrangements are now in place, for example, for environmental emergencies and search and rescue operations.

The preceding chapters of this report describe the various management functions to be performed in a national marine park, such as resource protection and visitor use management. In addition to the active role of Parks Canada, it is clear that the departments of Fisheries and Oceans and of Transport would be key participants in the management of a national marine park. These three agencies have, then, been identified as the lead agencies whose efforts in the West Isles must be effectively coordinated to achieve marine park objectives. All other agencies would exercise their involvement either through the course of performing their regular duties or as the result of consultation as the need arises.

The Role of Parks Canada

Parks Canada would be responsible for the overall management of a national marine park, and would play the lead role in ensuring the coordination of its activities with those of Fisheries and Oceans, Transport and other agencies as required. Parks Canada would be entirely responsible for resource protection in those terrestrial portions of a marine park, such as those offshore islands that may be part of the park, for all visitor activity programs and related facilities, and for non-marine wildlife management. Parks Canada would also be the lead agency responsible for the preparation and implementation of a park management plan, in cooperation with other government agencies and in consultation with the public. Through cooperative

agreements with other agencies, Parks Canada would play an active role in the protection and conservation of natural and cultural marine resources, marine research, search and rescue and emergency response, the provision and maintenance of navigational aids, and the regulation and control of recreational and tour boating, fishing and SCUBA diving.

The Role of Fisheries and Oceans

The Department of Fisheries and Oceans (DFO) would continue to be the lead agency responsible for the management of commercial and non-commercial fisheries and of marine mammals, for marine research and for the conservation and protection of marine habitats under the provisions of the Fisheries Act. The establishment of a national marine park would not affect DFO's jurisdiction over the management of fish stocks. Through a cooperative agreement, in consultation with the fishing industry, DFO and Parks Canada would jointly prepare a fisheries management plan for the marine park, at the time of park establishment, that would be consistent with DFO's regional fisheries management plans but would also address those fisheries management concerns that relate to park management and operation. The fisheries management plan for the park would comprise a portion of or be a companion to the park management plan prepared by Parks Canada.

The Role of Transport

The Department of Transport (DOT) would retain its role as lead agency responsible for marine transportation under the provisions of the Canada Shipping Act. In general, the establishment of a national marine park would not affect DOT's jurisdiction over marine transportation. In particular, and with specific respect to marine park

management requirements, DOT would continue to manage commercial vessel traffic, shipping safety, search and rescue operations, environmental emergency response, and the provision and maintenance of navigational aids. DOT would also continue to administer the provisions of the Navigable Waters Protection Act and the Transportation of Dangerous Goods Act within marine park waters. Under a cooperative agreement with DOT, Parks Canada would play an active role in the regulation and control of recreational and tour boating and boating safety in marine park waters, would assist in the provision and maintenance of navigational aids and in search and rescue and environmental emergency operations.

7.3 Impact on the Existing Administrative Regime

The intent of this cooperative management system would be to interfere as little as possible with the existing jurisdictional authority of the agencies currently involved in marine and coastal management, but to ensure the effective coordination of their activities to achieve a common goal. It is Parks Canada's preference that these agencies, the lead agencies in particular, continue to fulfil their responsibilities by commiting human and financial resources as required to meet demands placed upon them in a national marine park.

It is also recognized, however, that while existing legislative instruments would be utilized to the maximum extent possible for management purposes, new regulations may be required to achieve certain park management objectives, particularly relating to visitor use. Further investigation of the legal implications of the proposed management actions outlined in this report would be required to identify

deficiencies in the legal instruments available and the need for new regulations or legislative provisions.

Further, the details of the cooperative agreements that would be required between Parks Canada and other government agencies have yet to be developed. Of particular importance would be the specific allocation of management responsibilities among the lead agencies and the apportionment of human and financial resources to implement the respective programs. The identification of enforcement responsibilities is a particular case in point. It is anticipated that, in the event of park establishment, Parks Canada would sign a Memorandum of Understanding with each of DFO and DOT, and with other agencies as necessary, to define these working arrangements.

In view of the above uncertainties, however, the following statements of principle regarding enforcement should nevertheless apply:

1) All lead agencies would retain their current responsibilities for administering their legislation and enforcing their regulations.

2) Any new regulations that may be required and that are promulgated under the National Parks Act would be enforced by Parks Canada.

3) In addition, it may be necessary for certain Parks Canada staff to be authorized to enforce some of the Acts and regulations of other agencies to assist them in carrying out their responsibilities.

7.4 Alternative Approaches to Cooperative Management

Consideration of alternative approaches to cooperative management of a national marine park in the West Isles led to three possibilities:

1) continue the existing management process (i.e. maintain the status quo);
2) create a new special purpose agency to manage the park;
3) establish a linked or cooperative management system.

1) **Continue the Existing Management Process**
To continue with the existing management regime in the West Isles, but to provide no new mechanism for the cooperative management of a national marine park, is not considered a viable option. Parks Canada recognizes and requires the continued involvement of those agencies now managing the marine environment, and the effective cooperative management of a national marine park would require a new administrative structure that would provide for the coordination of these agencies' efforts to achieve park purpose and objectives, and for opportunities for public participation in the decision-making process.

2) **Create a New Special Purpose Agency**
It is assumed that national marine parks would be established under an amended National Parks Act, or under a separate Act to be administered by Parks Canada, and that Parks Canada would continue to be the lead agency responsible, in the most part, for their management and administration. The management capability exists within Parks Canada to manage and administer national marine parks as a component of the national system, and the establishment of a new agency to manage and administer one national marine park, or even a national system of marine parks, would lead to unnecessary duplication of financial and human resources and other services. Such an agency would also have to

be staffed and financed, in part, by the other agencies involved, further duplicating existing resources and services. In a new agency, if representatives of the participating departments were still responsible to their respective Ministers, this could lead to possible inconsistencies in the applicaton of departmental policies and programs. New legislation would probably also be required to create such an agency, and could considerably delay the implementation of any management program.

Recommended Option

3) Linked or Cooperative Management Systems

The creation of new cooperative mechanisms that adopt the existing regime and provide for the effective coordination of the policies and programs of those agencies involved in marine management in the West Isles area is the recommended option. The existing administrative regime for marine management would not change, but new mechanisms would be put into place to bring together into a common forum those departmental personnel responsible for the regional implementation of those policies and programs. Such a regime would also include a formal public participation process.

7.5 A Proposed Cooperative Management System

A cooperative management system in the West Isles must provide for cooperation between Parks Canada, other federal agencies, provincial agencies and local public/special interest groups.

There must also be sufficient linkages built into the system to enable communication and cooperation among all the parties involved, as required.

It must also be recognized that there are two different spatial contexts within which cooperative management must occur. The first is with regard to the national marine park itself. Secondly, if a national marine park is to be managed in a regional context, a mechanism must be established to facilitate cooperative management with the other federal, but in particular, the provincial agencies responsible for managing the regional coastal zone.

To this effect, two committees are proposed as follows:
- a national marine park public consultation committee;
- a national marine park interdepartmental coordination committee.

In addition, a less formal regional intergovernmental liaison function would be recognized and consultation with other government agencies, over and above the lead agencies, would occur as required.

These two committees and the informal regional linkages would comprise the committee component of the cooperative management system. The lead agency component was described in Section 7.2 above. The purpose and membership of these committees is described below.

The National Marine Park Public Consultation Committee

Purpose

The purpose of this committee would be to provide opportunities on a regular and systematic basis for the local public to participate in the decision-making process

with Parks Canada, DFO and DOT on matters relating to park planning, management, implementation and operations.

Membership

This committee could consist of members of the local public, special interest groups and organizations that have a direct interest in how the park is managed. Participants could include, for example, representatives from the Deer Island Steering Committee, Chamber of Commerce, Local Service Districts, the Fundy Weir Fishermen's Association, and representatives of other sectors of the fishing industry, local municipal councils, tourism associations and private industry. In addition, formal public consultation would take place as required to ensure input from others not associated with this committee. It is important to note that this committee would not replace nor supercede the public consultation mechanisms utilized by DFO in the preparation of its regional fisheries management plans.

The National Marine Park Interdepartmental Coordination Committee

Purpose

The primary role of this committee would be to coordinate the formulation and implementation of the policies and programs of its member agencies to be as consistent as possible with the management goals and objectives of a national marine park.

Membership

This committee would represent the local management level of the lead agencies involved in the management and operation of the park and the various activities that take place within it, namely Parks Canada, as the committee coordinator, DFO and DOT.

Discussion

As noted in Section 7.2, it is recognized in the draft National Marine Parks Policy that both DFO and DOT will retain their traditional jurisdiction over fisheries and marine transportation. Therefore, this approach provides for the individual decision making authority of each agency which is executed following the necessary coordination with each other through the committee. Under this arrangement, the Park Superintendent would have full authority over park operations and management with the exception of certain functions, such as commercial fisheries and marine transportation. The committee would consult with other federal or provincial agencies and the public consultation committee, as required.

The committee could act as a central point of access for the public on park related matters.

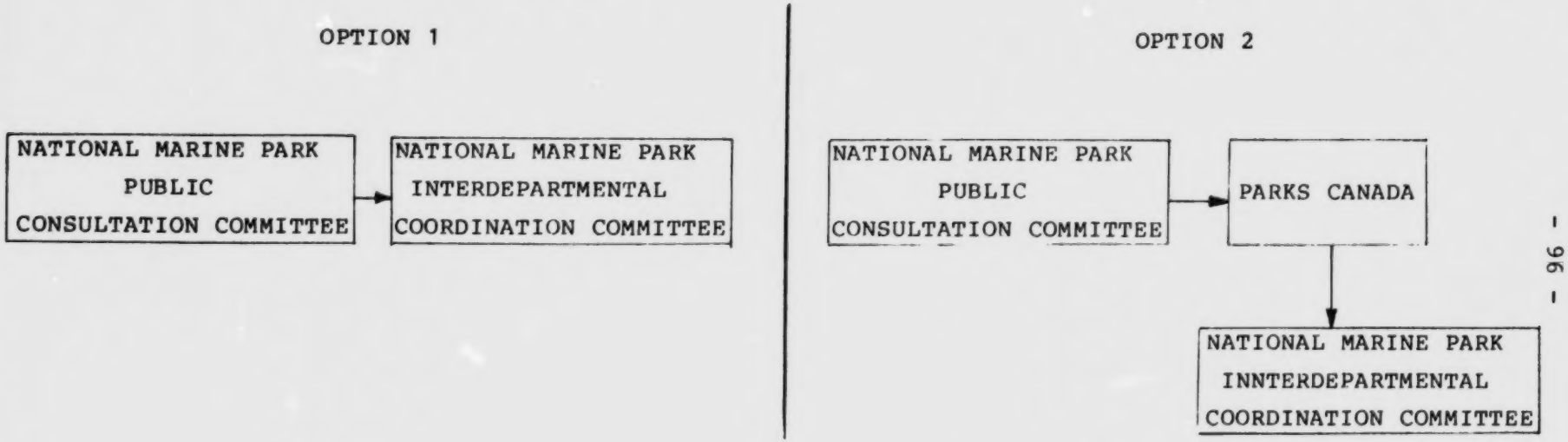
Organizational Structures

Two alternative structures for the organizational relationship of the National Marine Park Interdepartmental Committee and its members with the National Marine Park Public Consultation Committee were considered. These two options are displayed graphically in Figure 12 on the following page.

The organizational structure of Option 1 has the park Interdepartmental Coordinating Committee consulting directly as a unit, with the public consultation committee. In Option 2, however, the Park Superintendent, as coordinator of the interdepartmental committee, consults with the public consultation committee and then refers the results to the interdepartmental committee for consideration.

Figure 12

OPTIONAL ORGANIZATIONAL STRUCTURES
FOR
COOPERATIVE MANAGEMENT


OPTION 1
NATIONAL MARINE PARK PUBLIC CONSULTATION COMMITTEE
NATIONAL MARINE PARK INTERDEPARTMENTAL COORDINATION COMMITTEE
OPTION 2
NATIONAL MARINE PARK PUBLIC CONSULTATION COMMITTEE
PARKS CANADA
NATIONAL MARINE PARK INNTERDEPARTMENTAL COORDINATION COMMITTEE

No attempt has yet been made to determine which of these options would operate the most effectively in the West Isles, and would be a topic of further discussion with the local public.

Regional Intergovernmental Liaison

In order for a national marine park to be managed effectively, it must be managed in a regional context, preferably within a comprehensive coastal zone management framework. At a minimum, however, as noted in Section 2.2.4 of the draft National Marine Parks Policy, "cooperative arrangements will be sought with provincial and ... other federal departments and agencies, and foreign governments to mitigate the effects of any external activity which could threaten marine park resources and impair the quality of the regions aquatic environment." It is not proposed that a formal committee be established for this purpose. It is recognized that the need for liaison with other government agencies, at all levels, would be necessary and that the appropriate consultation would be sought as required.

Purpose

The purpose of this liaison would be to coordinate as required the efforts of those agencies involved in the management of resources and associated activities in the regional coastal environment to ensure that the marine environment of the park is not impaired and to monitor the impact of the park on the surrounding region.

Agencies to be Consulted

The principle agencies to be consulted would include the federal Environmental Protection Service of DOE and those provincial agencies responsible for land use and water

pollution control, including the departments of Municipal Affairs, Environment, Fisheries and the Crown Lands Division of the Department of Natural Resources. Other agencies such as Tourism New Brunswick or the appropriate agencies from the State of Maine could be consulted as necessary. Linkage to the International Joint Commission, if not required directly, could be established through DFO.

8.0 REGIONAL INTEGRATION

National marine parks, regardless of where they may be established in Canada, cannot exist in isolation from their surrounding region. National parks on land tend more to be managed as ecological islands, as the economic and social activities normally associated with human settlement carry on around them. By their very nature national marine parks will be much more closely integrated with regional community life, especially given the fact that economic activities such as commercial fishing and its support services would continue in national marine parks.

In the case of the West Isles, the ways in which a national marine park would integrate with the surrounding communities, and impact upon them, are closely related to the different visitor use options described in Section 6.1. The kinds of broader regional impacts, however, are relatively constant and can be categorized as either economic or social in nature.

Parks Canada and Tourism New Brunswick commissioned a study of the possible economic and social impacts which could result from the establishment and operation of a national marine park and associated facilities in the West Isles. For the purposes of this study, impacts are defined as significant positive or negative effects of the proposed park on the quality of life of neighbouring communities. While most regions of New Brunswick would experience, directly or indirectly, some economic effects of the proposed marine park, most of the social effects would be limited to the West Isles region. In undertaking this study, it is recognized that members of the public should

also have an opportunity to assess the possible impacts prior to any final decision.

8.1 Economic Impacts

The study found that the establishment and operation of the proposed national marine park would have a positive economic impact on Charlotte County. The total capital expenditure incurred in park development, assuming one of the three visitor use options were pursued, would approximate $14 million, and while the estimated expenditures do vary somewhat amongst the various visitor use options, there would not appear to be a significant variance in their economic impact on Charlotte County. Limitations in the information available, and in its analysis, do not permit a more precise estimate of the impact of the various options on the West Isles itself relative to Campobello Island or St. Andrews. It would be reasonable to expect, however, that for Options 1 and 2, for example, the West Isles and Campobello Island would experience greater economic benefits than would St. Andrews, whereas the opposite would be the case for Option 3.

It should also be qualified that regional economic impacts as an indirect result of park establishment could exceed those presented here should additional federal, provincial or private sector expenditures be made on other services such as transportation or tourism development. It has been estimated by Tourism New Brunswick that the establishment of a national marine park in the West Isles would stimulate private sector and provincial public sector capital expenditures in excess of $20 million in such areas as accomodation and food services, diving services, retail

outlets and transportation. Increased operations and maintenance expenditures in this sector are difficult to estimate but would be substantial.

The principal economic impacts due to park establishment would result from the following activities:
- capital expenditures during park development;
- operation and maintenance expenditures including park staff salaries and wages;
- purchases by park visitors and other tourists.

The impacts of capital expenditures stem from the wages paid to construction workers and purchases of equipment, supplies, materials and services for the park. Impacts from operations and maintenance arise from the salaries and wages of staff hired by the park or from the private sector (and their purchases) and other services purchased by the park, such as accommodation and food services and transportation by park visitors while they are in the Charlotte County region.

These economic impacts can be divided into two types of impacts, the direct and the indirect. The direct impacts are those which are directly associated with the park itself. For example, the capital, operation and maintenance expenditures for salaries and wages would have a direct impact on labour income. Similarly, for visitor expenditures, the direct impact is the labour required to serve the visitors, such as employment in the accommodation industry.

Indirect impacts, on the other hand, are those which occur as a result of some of the direct income being respent in

the local economy. For example, when park-related staff purchase groceries, this causes an increase in the retail sector of the local economy. Also, businesses which would serve the park or supply it with materials would need to purchase supplies themselves, creating an indirect impact.

The Economic Impact on Charlotte County

The economic impact that would accrue to Charlotte County would, as noted above, arise from 1) capital expenditures during park development, 2) from operation and maintenance expenditures, including salaries and wages, and 3) tourist expenditures. These are discussed individually below.

1) Capital Expenditures During Park Development

Direct Construction Jobs

A considerable economic impact due to the park would be the creation of direct jobs in park facility construction. It is assumed that 100% of construction labour requirements could be obtained from the Charlotte County labour force. The number of jobs created through park development for all three options is shown below in Table 2. The number of jobs indicated are based on a seven month construction schedule for each year and therefore, most would be seasonal in duration. The total number of job equivalents required for park construction over the initial ten year period would be approximately 146 jobs in Option 1, 164 jobs in Option 2, and 147 jobs in Option 3.

TABLE 2: EMPLOYMENT IN PARK CONSTRUCTION

	Option I	Option II	Option III
Year	Jobs	Jobs	Jobs
1	3	3	3
2	11	10	11
3	21	18	18
4	15	16	14
5	28	13	27
6	15	20	20
7	15	32	18
8	26	40	26
9	5	7	6
10	7	5	4
Total	146	164	147

Note: Most of these jobs would be seasonal in duration, based on a seven month construction schedule each year.

Construction Material Purchases

In addition to the hiring of labour, a considerable amount of construction materials would be purchased in New Brunswick. It has been estimated that 85% of construction materials would be purchased in the province with the remaining 15% purchased in other regions of Canada. Of the 85% purchased in New Brunswick, it has been estimated that 70% could be obtained in Charlotte County. The value of construction materials purchased in Charlotte County for all three visitor use options would be approximately $3.8 million during the park's ten year development period.

2) Park Operation and Maintenance Expenditures

Direct Labour Income

The year-to-year operating expenditures of the park would have an impact through the creation of jobs and the salaries and wages paid to park related employees. As the park develops, this impact would increase as the number of park-related employees increases. It should be noted here that not all park-related employees would necessarily be Parks Canada employees. The participation of the private sector in park operations is encouraged and considered here and therefore the term "park related" employees is used. Total salaries and wages to operate and maintain the park have been estimated to be approximately $580,000 to $690,000 by the tenth year of operation.

Although not all Parks Canada or private sector positions would be filled by residents of Charlotte County, all of the labour income generated in park operation is assumed to have an impact on the region.

Direct Operations and Maintenance Jobs

The number of jobs created by the park for its operation and maintenance would be similar for all three options. It has been estimated that Charlotte County residents would be able to fill approximately 70% of the employment in the park by Year 10. With park development completed, about 42 jobs would be involved in options 1 and 3 and 48 in Option 2. As would be the case for construction employment, much of this employment would be seasonal, due to the seasonal nature of park operations.

Direct Purchases

In addition to the payroll of park related staff, the operation of the park would have an impact on the economy of Charlotte County through the purchase of supplies, services and other expenditures. It has been assumed that approximately 30% of the total expenditures on operation and maintenance (other than payroll) would be spent in Charlotte County. Expenditures have been estimated to be $477,000 in Options 2 and 3, and $433,600 in Option 1 for the first ten years of park operation.

3) Tourism Expenditures

Economic impacts of the park would result from the purchases made by park visitors while they are in the region. This spending would have an impact on the Charlotte County economy since it is assumed that it would not take place if the park did not exist; that is, the visitors who would otherwise come to the park would spend their money elsewhere in Canada or the United States if the park did not exist. Therefore, it is important to estimate the potential spending of park visitors as well as the type of purchases they would make in order to determine the total impacts on the economy of Charlotte County.

In order to estimate the expenditures of park visitors in the region that would occur under each option, average expenditures per party-day were estimated on the basis of the New Brunswick Department of Tourism 1980-81 Auto Exit Survey and the 1979-80 Domestic Travel Survey. Average expenditures per party-trip are available for spending on accommodation, food, recreation, entertainment, transportation and others.

Since the forecasts of park visitors increase for all options over the first ten year period, the tourist generated spending is also expected to increase. The purchases related to accommodation are the most important category in all options, accounting for approximately 33% of total tourist expenditures. The total annual incremental tourist expenditures in Charlotte County would grow from approximately $30,000 in Year 1 to $810,000 in Year 10 for Option 1, and from approximately $35,000 in Year 1 to $569,000 in Year 10 in Option 2. Option 3 will generate an estimated $35,000 in tourist expenditures in Year 1 rising to $831,000 by Year 10.

Economic Opportunities for the West Isles, Campobello and St. Andrews

As the above results indicate, it is to be expected that economic benefits would accrue to Charlotte County due to the presence of a national marine park, with the majority of the benefits being realized by the mainland portion of the county, due to the more developed and diversified nature of its economy as compared to the West Isles and Campobello. Many of the materials and services required to develop and operate the park are simply not available on the islands and, to a lesser extent, in St. Andrews.

It is Parks Canada policy to purchase goods and services locally, where delivery guarantee, price and quality are competitive with other suppliers. In this context, "local" implies the Province of New Brunswick. It is difficult to determine the precise amount of benefit any one particular region could enjoy, since the ability to capture benefits would be dependent upon suppliers' initiative and competitiveness in providing the park with its requirements.

While the potential for private sector involvement would vary among the three options, it should be expected that appropriate commercial activity would develop in the West Isles, Campobello and St. Andrews areas to service park needs as well as the needs of park visitors. These opportunities could include:

- jobs during construction projects;
- jobs related to park operation and maintenance;
- provision of suitable fixed-roof accommodation to respond to an expected increase in the overnight visitor market;
- development, as demand dictates, of restaurants, grocery stores and convenience/variety outlets to provide tourists with food and sundries;
- expansion of the general service sector;
- operation of various park related activities either as a private venture or on a concession basis, for example, boat tours, shuttle service, guiding, and fishing excursions; or
- establishment of a diving equipment outlet for both sales and rental of diving related gear.

It is difficult to be able to quantify the nature of these opportunities. Some of the employment opportunities to be created are likely to be of a seasonal nature and restricted to the peak visitation period. In addition, potential revenues are likely to be of a scale, with the possible exception of a high quality and well managed restaurant/motel operation, that these ventures would probably be most suitable as part time or seasonal endeavours to supplement another source of income, such as commercial fishing.

Nevertheless, it must be recognized that the increased income in the region as a result of park employee salaries alone would result in spinoff activity. As well, given the prevailing unemployment rates in the region, the number of projected direct and indirect jobs resulting from the establishment of the park would make a significant contribution to reducing local unemployment levels.

8.2 Social Impacts

The purpose of this section is to identify and quantify to the extent possible those changes in the social environment that could be attributed directly or indirectly to the proposed park and which would or could affect the quality of life of the residents of the area. These social effects would be primarily restricted to the area within the immediate vicinity of the park, that is the West Isles and Campobello areas, and including St. Andrews in Option 3.

Social Impacts During the Park Development Phase

During the construction phase, the range of predicted social effects is largely predicated upon the degree to which the project would generate requirements for imported labour. In consideration of the existing levels of unemployment prevalent among the trades likely to be required for the proposed park, coupled with currently predictable employment prospects for the future, it has been estimated that the entire work force would likely be found in Charlotte County. Moreover, mainland workers would likely commute to the area on a daily basis, rather than build homes or seek rental accommodation in the West Isles region. Consequently, for Options 2 and 3, increased traffic on the Deer Island ferry would be likely, but only during the early morning and late

evening in years 2-4 of park development. The probability of occurrence of other effects normally associated with an influx of migrant workers into small communities, such as population increases, increased demands for housing and municipal and government services with the corresponding changes in land use, is very low.

Social Impacts During Park Operation

The anticipated impacts due to park establishment and operation on the social and community fabric of the West Isles area can be categorized as follows:

1) population and housing
2) land acquisition
3) local recreational use of park lands and waters
4) effects of increased tourist visitation
5) impacts on municipal finance
6) impacts on government services

These are discussed individually below.

1) Population and Housing

As discussed in the previous section, approximately 70% of the jobs created by the park when in full operation could be filled by local residents from Charlotte County. It is expected that very few of those who do not live in the West Isles/Campobello area would decide to take up permanent residency there, particularly in Option 1 which is based on the mainland at Green Point. Thus, the resultant population increase to the region would be minor.

Given this modest population influx, the number of additional housing units required would be very small, and for Charlotte County as a whole, would represent a minor increase.

2) Land Acquisition

Land use impacts attributable to the aquisition of land for the park and the construction of facilities was a concern commonly expressed by local residents.

The area of land identified by Parks Canada as being essential or desirable for inclusion in a national marine park is, however, very small, comprising approximately 2% of the total proposed park area. Thus, in absolute terms, direct land use impacts through acquisition and the development of facilities on the mainland and larger islands would be minor for all options.

Table 3 describes the extent of proposed land requirements for all three options. There would be no land utilized on Deer or Campobello Islands in Option 1, and less than 1% (61 hectares) of the total land mass of these two islands would be utilized in Option 2. On the mainland, a small portion of land on Green Point, some of which is currently occupied by a Department of Transport lighthouse complex, would be involved in Options 1 and 2. On Deer Island, about 30 hectares would be required in Option 2. On Campobello Island, approximately 30 hectares in Option 2 and Option 3 would be required near Wilsons Beach and at East Quoddy Head, of which some of the latter is currently occupied by a federal Department of Transport lighthouse complex.

Rather than the area of land involved, the location and existing use of the land are the primary factors to be considered. In this regard, Parks Canada and Tourism New Brunswick have specifically proposed locations which, for the most part, presently represent either uninhabited or vacant land or are lands currently owned by the federal government and for which cooperative agreements would be sought with the Department of Transport for their joint

use. Approximately 68% (Option 2) to 98% (Option 1) of the proposed land requirements for the options is accounted for by the small and uninhabited offshore islands in the waters between Deer and Campobello Islands. Four of these islands, namely White Horse, the Spectacles, Marble and part of Hospital, are New Brunswick Crown Land.

Further, it is Parks Canada policy that the purchase of lands for park purposes would be negotiated on a willing seller-willing buyer basis. Lands for park purposes would not be expropriated. In cases of complex land ownership, the New Brunswick Quieting of Title Act would be utilized to facilitate the transfer of title.

Some of the park's buildings and structures would be visible from the water, but as their design is intended to be compatible with the existing landscape and architectural style, the aesthetic impact of new facilities on the landscape would be minimal.

Table 3: PROPOSED PARK LAND AREA REQUIREMENTS

Location	Option I		Option II		Option III	
	Acres	Hectares	Acres	Hectares	Acres	Hectares
Mainland New Brunswick	10	4	5	2	5	2
Smaller Islands in Passamaquoddy Bay	374	149	294	117	336	134
Deer Island	--	--	78	31	---	---
Campobello Island	--	--	50	30	72	29
Total	384	153	427	170	413	165

3) Local Recreational Use of Park Lands and Waters

It was mentioned by several local residents of the West Isles area during the open houses held in 1984 that local people often used the offshore islands for personal recreation, even though they were privately owned. They inquired as to whether or not they would be able to continue this activity on islands acquired for park purposes.

Within the visitor use options, there are proposals for day use and primitive camping opportunities on some islands, where others would be managed for resource protection. Still others would remain in private ownership. While Parks Canada would adopt specific policies to manage those islands acquired, the recreational use of park resources by local residents would be encouraged. Parks Canada would make every attempt to incorporate traditional recreational uses of park waters and the offshore islands into its park management policies.

As discussed in Section 6.4, Parks Canada would control recreational boating activity as required within marine park waters. The principle intent would be to assist the commercial fishery by minimizing any potential disruption by recreational boating activity but also to assist in the management of environmentally sensitive areas and to promote boating safety. There would be no interference with traditional recreational boating patterns and the public right of navigation.

Recreational fishing would continue within a national marine park with the exception of the harvest of scallops by SCUBA divers.

4) Effects of Increased Tourist Visitation

One of the most significant issues raised during the open houses and public meeting held in 1984, and one of considerable concern to many local residents, is the potential impact of increased visitation to the West Isles on their quality of life. Specific issues included the potential for increased vandalism, littering, crime and traffic congestion.

In its experience from managing the national parks across Canada, Parks Canada has been successful in minimizing any potential negative impact due to park visitation on the lives and property of adjacent communities or residents. In the West Isles, Parks Canada would cooperate with other federal and provincial agencies, the RCMP in particular, to maintain a high standard of surveillance and law enforcement within park boundaries, and would encourage the increased vigilence of these agencies in those areas adjacent to the park.

It is not anticipated that the potentially negative aspects of increased visitation would materialize to any great extent in the West Isles area.

The issue of a potential increase in traffic congestion is closely tied to the individual park options and to the capacity of the Deer Island ferry system. This topic is discussed in Section 8.3.

5) Impacts on Municipal Finance

The proposed park would involve the use of some lands currently unoccupied and the erection of permanent structures which would increase the assessment base of Deer Island and Campobello Island Local Service Districts (LSD).

Because the park land and facilities would be federally owned and not liable to taxation, the increased assessment base would result in a grant in lieu of taxes which would be payable to the provincial government on behalf of the LSD's.

6) Impacts on Government Services

The potential for the proposed national marine park to impact on existing government services is highly dependent on the current level of services available in the area and their capacity to absorb any new demands that may be placed upon them. Since the probable rate of resident population influx to the West Isles region due to the park's presence would be very low, it is logical to assume that the associated impacts on these services would be correspondingly low.

Municipal services such as sanitary sewers and water supply do not currently exist on the islands. Park facilities would require private wells and septic tanks. The costs associated with the installation and operation of those services would be incurred directly by the land owner.

Volunteer fire brigades currently provide fire protection services on both islands and in St. Andrews. The park would be serviced by its own fire protection equipment and Parks Canada would be willing to enter into cooperative agreements with the local fire protection organization to provide mutual assistance.

At present, there is an RCMP sub-detachment with a full-time officer on Campobello Island. The RCMP has attempted in the

past to establish a sub-detachment on Deer Island, but this has not yet been successful. Deer Island and the mainland are currently serviced by the St. George detachment. The St. Andrews detachment is augmented by one officer during the summer months to handle the increased tourism traffic. Discussions with the RCMP indicate that the current level of service would be adequate should a national marine park be established, with the exception that under Option 2, a new sub-detachment with a full-time officer would be required on Deer Island.

With respect to health care services, there are two ambulances and a St. John Ambulance brigade on Campobello Island, while Deer Island has one ambulance. Each island has a health services centre but no resident doctor. St. Andrews has a medical clinic. Since all three options do include the provision of a decompression chamber in the event of diving accidents, medical staff trained in the use of this equipment should be available at least during the summer months.

8.3 Impacts on Transportation

Early in the process of investigating the suitability of the West Isles area as a potential site for a national marine park it was recognized that visitor access to Deer Island would present a major difficulty. This was further reinforced by public input both informally and during public consultation.

The residents of Deer Island are concerned that drawing increased numbers of tourists to the area would increase line-ups and waiting time at both ferry terminals. They are

also concerned about the effects of increased traffic on Island roads. The residents of Back Bay, Letete and immediate area are concerned with the effects of traffic and line-ups for the ferry on their communities. In recognition of this potential problem, Tourism New Brunswick requested that the New Brunswick Department of Transportation engage a consultant to review the transportation system in the study area.

The impacts upon the transportation system in the study area would vary substantially depending upon which development option is chosen if a park were to be established. Option 1, involving a major development in the Green Point area with no park facilities on Deer Island, would have minor implications for the ferry linkage to Deer Island, recognizing, however, that some of the visitors to Green Point would also want to travel to Deer Island. Option 2, involving development of facilities at Green Point, on Deer Island and on Campobello Island, would have significant implications for the Letete/Deer Island ferry service. Option 3, involving development of major facilities in the St. Andrews area and on Campobello Island, would have a marginal effect upon the ferry system. The road networks would also be affected to varying degrees depending on visitor use patterns.

8.3.1 Letete/Deer Island Ferry System

The existing ferries, the John E. Rigby and D.L. MacLaren, are currently operating at full capacity for the majority of the peak season daily crossings in July and August during the 9½ hour period between 9:00 a.m. and 6:30 p.m. Moreover, the D.L. MacLaren is now 30 years old and is reaching the end of its useful life.

Any significant increase in traffic volumes above the existing levels would result in a need for improvement to the capacity of the Letete/Deer Island ferry service. The proposed national marine park would contribute to increased demand for the ferry service, particularly if park facilities are located on Deer Island as in Option 2.

Recognizing that the existing ferry system is used to capacity, the transportation consultant recommended that a new 24 unit ferry be brought into service by Year 1 of park establishment to replace the MacLaren and that another 24 unit ferry replace the Rigby about 10 years later. Based on a 15 hour schedule during peak season this service would have a capacity in excess of 1,200 passenger car units per day based on a peak period average load factor of 85 per cent. This would be adequate to serve residents and visitors regardless of park visitor use option.

In 1984 dollars, the capital costs of these improvements in ferry service would amount to $4,100,000 for each new ferry and $100,000 for improvements to the ferry landings. There would also be minor increases in operations and maintenance (O & M) costs if the two ferries were replaced.

8.3.2 Road System in the West Isles Area

The consultant's study concluded that there is no need for major improvements to the Island highway system given the projected visitation to Deer Island if a national marine park were created.

The existing access roads to the ferry landing at Letete from St. George are adequate to handle projected traffic increases. With increased ferry capacity and usage there would be the necessity to better manage those vehicles waiting to get on the ferry by providing a double-lane marshalling area adjacent to the ferry landings at both Letete and Butler point.

The access road from Letete to Green Point would require upgrading to improve both horizontal and vertical alignments, particularly if Options 1 or 2 were pursued for park development. This would result in improved road access to the shoreline and would not involve the relocation of any existing residences.

Road access to Campobello is adequate to absorb projected increases in use due to a national marine park. The access road from Wilson's Beach to East Quoddy Head would require upgrading if Option 2 or Option 3 were pursued.

8.3.3 Island Bridge Option

In 1972 a preliminary study was carried out by New Brunswick to assess the possibility of using Pendleton, McMaster and several other islands to the north of Deer Island to build a system of highways, bridges and causeways and a short ferry route connecting to the mainland. In several of the meetings with Deer Island residents this alternative was mentioned and it was requested that this be given further consideration.

The transportation consultant investigated this alternative and recommended that it be rejected for the following reasons:

1) Based upon anticipated visitation levels to a national marine park there is no justification for the estimated $32 million capital expenditure required ($1984).
2) If causeways were to be used, it was anticipated that there would be substantial negative effects on the fishing industry.

9.0 REGIONAL TOURISM DEVELOPMENT

From the perspective of Tourism New Brunswick, a national marine park in the West Isles could act as the central focus of a regional tourism destination area that would encompass the entire Passamaquoddy Bay region. This portion of south-western New Brunswick has long been recognized for its tourism potential, and St. Andrews has been taking advantage of this potential for many years, but overall visitation has not yet warranted substantial investment in other areas of Charlotte County.

It is not anticipated that the necessary visitation to justify such investment would materialize in the Passamaquoddy Bay region without the impetus provided by the presence of a national marine park. In that respect, a successul regional tourism development strategy would be highly dependent on the establishment of the park.

In 1981, Tourism New Brunswick published a document entitled "A Tourism Sector Strategy for New Brunswick" which was intended to provide the overall direction for the tourism industry for the five year period from 1982 through to 1986. Two of the recommended courses of action in this report were to pursue with Parks Canada the idea of establishing a national marine park in the West Isles and to further support the development of the St. Andrews area.

To this end, Tourism New Brunswick, as part of this feasibility study, has prepared a proposed tourism development plan for the Passamaquoddy Bay region which recommends potential attractions and developments over and

above those provided by, and which would be complimentary to, a national marine park.

9.1 Goals for Tourism Development

There are various goals for tourism development in the area covered by this tourism development plan.

Economic Goals

- To increase the economic potential and employment opportunities for area residents by creating opportunities for added income and additional jobs.
- To provide an alternate source of income in an area traditionally dependent upon the fishing industry.
- To identify tourism development opportunities in the area in relation to the development of a national marine park in the West Isles area.
- To contribute to the general viability of the Fundy Isles Tourism Destination Area.

Social/Cultural Goals

- To enable residents, particularly those of Deer Island, to retain as much of the social/cultural identity of their area as they desire while still allowing them to participate in economic development.
- To contribute towards the continuing viability of Deer Island as a community in terms of population and economic actions.

Industry goals

- To allow development of the area tourism industry while assuring that there is no disruption of the commercial fishery.

- To provide support for the Fundy Isles Tourism Association.

9.2 The Tourism Development Plan

The general philosophy underlying the tourism development plan is the intent to provide a broad spectrum of attractions and services that would complement the development of a national marine park. This involves catering to all age groups, to individuals as well as families, and to parties with varying interests and financial resources. For example, a national marine park would be of considerable interest to the diving community, but it is also essential that there be sufficient facilities to attract non-divers, who represent an even larger market.

There are various motivating factors behind this tourism development plan. The strategy is primarily oriented toward recommending those developments and services necessary to provide for the needs and desires of the visitors to the national marine park. Further, it also recommends several attractions that could take advantage of the attracting power of the national marine park and extend the stay of visitors in the area.

There are other developments being considered or developed in the region that do not necessarily rely on the national marine park for their success, such as the new development project now underway on Campobello Island. These developments will also contribute to the attractiveness of Charlotte County to the travelling public. Further, many of the attractions mentioned in this plan already exist in one form or another.

With respect to these, the intent of the tourism plan is to suggest how these attractions could best be developed to improve tourist access and provide revenue opportunities.

The Role of the Private Sector

The tourism development plan also recognizes the important role of the private sector in the development of regional tourism facilities and services. The greatest net economic benefit in the long term to Charlotte County and its residents would arise from private sector investment. While the establishment of a national marine park would stimulate economic activity and would provide a number of seasonal and permanent jobs, the greatest impact on the regional economy would arise from the economic activity associated with the provision of such services as hotels, motels, food services, boat charters and the development of various attractions.

It would be very important that private sector development be stimulated in such a way as to allow for the participation of local residents.

Tourism Development and the National Marine Park Visitor Use Options

The three visitor use options for a national marine park in the West Isles, as presented in Section 6.1, have some very definite implications for the location and development of tourist attractions and services. Option 1 involves the location of the visitor reception centre on Green Point with no facilities on Deer or Campobello Islands. An obvious implication of this option is that a greater emphasis on attractions on the mainland would be appropriate with minor development on the islands. The implications of Option 3 are similar, with an even greater emphasis placed on the

St. Andrews area. On the other hand, Option 2 involves a minor facility at Green Point and larger visitor reception facilities on Deer and Campobello Islands. There would, therefore, be a greater need for attractions and services on the islands in this option.

9.2.1 Tourist Attractions and Services

The essential ingredients of any tourism development strategy must include attractions, support services, and marketing. For the purpose of this study, this section discusses only the first two components of the tourism development plan for the Passamaquoddy Bay region.

9.2.1.1 Proposed Attractions

A tourist attraction is best described as any man-made or natural feature that would draw tourists to an area, retain them there once they have arrived, and entertain, interest or stimulate them while they are there. In a regional sense, particularly in the context of this plan, the proposed national marine park would be a major tourist attraction that would draw tourists to the area. Tourist attractions can be based on the existing natural, historical or cultural resources, or can be developed for recreational, educational and commercial purposes. The following summary of proposed regional attractions, prepared by Tourism New Brunswick, is categorized accordingly.

Resource Based Attractions

	Location	Recommendation
1)	Oven Head	- develop a day use marine provincial park to encompass the penninsula and adjacent waters.

- the province should purchase the remaining property on the head.
- the park should be developed to provide for day use recreation and shore-based beginner level diving opportunities.

2) Old Sow Look-off - develop an interpretive facility on Deer Island Point in conjunction with redevelopment of the day use and camping facilities

3) Shoreline Hiking - a system of self guided shore-hiking trails be created to offer hiking, photographic and picnicking opportunities

4) Self Guided Drives - develop self guided drives in the region to include Deer and Campobello Islands and the coastline of Passamaquoddy Bay.

5) St. Croix River - further develop the river's recreational and tourist potential as a nominated Canadian Heritage River, while at the same time, ensuring that the river's outstanding natural and historical heritage values are protected.

Historical and Cultural Attractions

6) Indian Island
- develop the Chaffey Estate as a regionally and provincially significant historic resource and tourist attraction.
- development could be pursued by the private sector or community group without acquisition by the government.

7) St. Croix Island
- interpretive facilities be provided at a visitor interpretive centre adjacent to Route 127 to St. Andrews to enable visitors to stop and appreciate the historical significance of St. Croix Island.

8) Ministers Island
- appropriate development of Ministers Island be pursued in a manner complementary to a national marine park.

9) Roosevelt-Campobello International Park
- Parks Canada cooperate with the management of the international park to maximize benefits to the local communities.

10) Festivals
- an annual marine festival be established, potentially in St. Andrews, to celebrate and promote the marine environment, the fishery and SCUBA diving.

- specific SCUBA diving events be created on several long weekends to promote diving in the West Isles.

Recreational Attractions

11) Deer Island Point
- the existing campground and day-use area should be redeveloped and improved, or converted to day-use only.

12) Deer Island Campground
- if Deer Island Point is converted to a day use area, an alternative location on the island should be investigated for location of a campground.

13) Campobello Golf Course
- the feasibility of expanding the existing golf course in Herring Cove Provincial Park be investigated.

14) Improved Dive Sites
- an inventory of potential shore access dive sites in Charlotte County be undertaken and a comprehensive brochure be published to promote them.
- several man-made dive sites be created to provide novice diving opportunities and interesting sites. Man-made sites would involve improvement to easily accessible locations through the addition of sunken boats or creation of artificial reefs.

Educational Attractions

15)	Sunbury Shores Arts and Nature Centre	- this and other such organizations should be encouraged to broaden their course content to include matters relating to a national marine park. - consideration should be given to utilizing such groups in the proposed park for interpretive programs.
16)	Huntsman Marine Laboratory	- the Huntsman is currently undertaking a fund raising campaign to finance a major expansion of its facilities. These expanded facilities would be complementary to proposed marine park developments and, should the park be created, must be considered in the overall interpretation of the area's resources.
17)	Marine Tours	- the feasibility of expanding existing commercial marine tour services should be investigated.

Commercial Attractions

18)	Campobello Development Company	- proposed developments on Campobello Island should be integrated into the park

		planning process. These private sector developments will contribute substantially to the service infrastructure necessary to accommodate park visitors.
19)	Fisheries and Tourism	- consideration be given to the commercial adaptation of certain unique fishing structures such as herring wiers, lobster pounds and aquaculture plots to provide access and interpretation for tourists. - such facilities could also be utilized for the direct sale of fish products in association with a fishermens' village.

9.2.1.2 Support Services and Infrastructure

Service infrastructure includes all those facilities which are not attractions in themselves but which are necessary to cater to tourists' material and comfort requirements. It includes accommodation, restaurants, fuel supply and other retail outlets.

It is in the area of service infrastructure where there are private sector opportunities which would offer the major economic benefits in terms of revenue and employment from the impetus provided by a national marine park. These private sector opportunities would, for the most part, be seasonal in nature. The type and amount of such services required in the area would be highly dependent upon, and

would vary with, the three visitor use options proposed for the marine park.

Accommodation

The types of accommodation range from campgrounds to the many forms of "fixed-roof" accommodation, including hotels, motels, cottages, guest houses, country inns, and bed and breakfast establishments. The provision of adequate accommodation is important to the success of both a national marine park and a regional tourism industry if visitors are to remain in the area for longer than one day.

In Charlotte County there is currently a full range of roofed accommodation distributed along the coast which varies greatly in quality and services offered. Their distribution within the county is concentrated in St. Andrews which accounts for 46.5% of all available accommodation units. The area immediately adjacent to the proposed national marine park, on Campobello and Deer Islands and St. George, possesses only 8.7% of units in the county. The Campobello Development Company is proposing to build a major accommodation facility on their property on Campobello. This new hotel/motel development would increase this area's share of the accommodation market considerably. The dominance of St. Andrews in the provision of accommodation services places this community in a good position to reap maximum economic advantage should the marine park be established, particularly if it followed the course outlined in visitor use Option 3.

Peak season (June-September) occupancy rates are also a good indication of the capacity of the existing supply to absorb new demand. For the period from 1979- 1983, peak season

occupancy for Deer and Campobello Islands varied from 47% to 59%, while shoulder season varied from 24% to 42% (these average figures include Grand Manan). Similar rates of occupancy for St. Andrews are 60% and 35% (1983) respectively.

Another important factor to consider is the ability of each establishment to cater to bus tours, and relatively few of the establishments in Charlotte County presently have this capability. Those that do are all in St. Andrews, although this would change with the completion of the development on Campobello Island.

While it would appear that there would be potential for the establishment of new and higher quality accommodation services in the West Isles area, should a national marine park be established, the tourism study has been unable to determine a reliable indication of new demands or expectations for new demands or expectations for new facilities. The following recommendation is therefore made:

Recommendation:
That following three years of park operation, a comprehsive accommodation needs study be conducted for the Passamaquoddy Bay region based on the industries past three year performance. In this study, specific occupancies for Deer and Campobello Islands as well as real experienced visitation figures could be used.

Restaurant/Food Services
There also exists in Charlotte County the full spectrum of food services available to the general public, including

formal restaurants, snack bars, roadside takeouts, over the counter sale of prepared and fresh seafoods, and others. As with the accommodation sector, these establishments vary considerably in quality, price and distribution.

It is anticipated that due to the projected increases in tourist visitation to the area if a national marine park is established, that there would be new opportunities for the private sector to increase the supply of restaurants and other food services in St. George, Back Bay/Letete, Deer Island and Campobello, dependent to a certain degree on the park visitor use option pursued. The existing capacity in St. Andrews and St. Stephen would appear to be adequate and increased visitation would only improve their viability.

Recommendations:

1) Particularly if Option 1 is pursued, the private sector be encouraged to create sit-down restaurant facilities in the St. George/Letete/Back Bay area.

2) That such restaurant services be increased on Deer Island and Campobello Island if Option 2 is pursued.

SCUBA Diving Services

From the perspective of Tourism New Brunswick, the West Isles has the potential to be a SCUBA diving destination of national and international stature if the necessary support services are provided and if an agressive promotion and marketing program is pursued.

In New Brunswick, there currently exists a limited number of full service dive shops which offer the complete spectrum of services including air, equipment sales and rentals,

repairs, diver instruction and certification and chartered excursions. Only one of these shops is in the southern part of the province located in Moncton which is too far to be of much utility to West Isles divers. In the Charlotte County area, there are two diver outlets where air is available, one in St. George and the other at Sealy's Cove. The later also offers limited rentals and sales.

The establishment of a national marine park in the West Isles would stimulate the need for air stations and equipment rentals distributed throughout the area.

Dive shops are the logical place for a visiting diver to sign up for a diving excursion. These excursions could vary from one half day to a full day in length. The dive shop operators could either operate their own boats or engage the services of a local fisherman or charter operator and boat.

Dive charters to groups may also be operated independently by local fishermen. Little modification to a fishing boat is required. According to Tourism New Brunswick estimates, in Year 1 of park operation, if 600 divers were attracted to the park, and if 80% wanted access to the designated dive sites, this would involve approximately 40 charters per season with an average boat capacity of 12 divers. In Year 5, this would involve 200 charters and in Year 10, about 480 charters, or 4 charters per day for the four month season. At current rates, each charter could earn a revenue of $150 to $200 to the participating boat owners, or approximately $100,000 per season.
Central to the success of any promoted diving destination, is the provision of a decompression facility and the necessary trained staff to operate it. This is especially necessary when deep and cold water is involved.

Recommendations:

1) The private sector be encouraged to provide a full range of dive services including air stations and equipment rental.

2) A decompression facility be provided in the West Isles area and staff trained to operate it.

Other Tourism Service Requirements

In addition to the attractions themselves, the provision of adequate accommodation and food services are the most critical foundations of a successful tourism destination development.

Others would include increasing the capacity to sell local crafts, providing regional bus or self guided driving tours, self guided walking tours, tourist radio programming, and a wider variety of retail outlets for sales or equipment rentals. As traffic levels increase, so would the need for improved and expanded facilities for vehicle service and fuel supply.

Improved facilities to service the recreational boating public would also be required. By its very nature, access to the waters of the proposed national marine park would be by boat, either private or chartered. Some visitors to the park would arrive by boat. Others would bring their own boats with them for launching in the area. In addition, water taxis or shuttle services would be required to deliver and pick up visitors at locations within and outside the park, and would require docking locations separate from those used extensively by the commercial fishery.

These needs would be satisfied by the provision of publicly available marina facilities in the proposed marine park area. The current lack of these facilities discourages boaters from visiting the Passamaquoddy Bay area. There are also no appropriate facilities at Letete or on Deer or Campobello Islands. A full service marina should provide dock rentals, sewage disposal, water and fuel, and on shore facilities such as showers, washrooms, boating supplies, and haulouts for repairs. A marina system plan for the province of New Brunswick is currently being undertaken by Tourism New Brunswick in conjunction with Small Craft Harbours (DFO) to investigate marina needs and development priorities in the province.

Recommendations:

1) An organization be created to further the production and marketing of local crafts in the West Isles area.

2) A program of craft education be embarked upon by the area organization once it has been created.

3) The results of a Marina System Plan, currently being prepared, be used to develop priorities for marina development in the general area of the proposed marine park.

9.2.1.3 Education and Training Requirements

Essential to the success of the proposed establishment of a national marine park in the West Isles would be a public education and training program which would better prepare the general public to accommodate tourists and which would allow area residents to participate in the employment opportunities which would arise.

A public education program could be accomplished through workshops, public meetings, information sessions, the use of familiarization tours and daily contact with the public.

Training needs could best be fulfilled through existing agencies such as Community Colleges, training opportunities available through various provincial government departments and the federal Canada Employment and Immigration Centre.

Recommendation:

1) It is recommended that, should a national marine park be established, a comprehensive education and training package be formulated for the area.

10.0 ASSESSMENT OF FEASIBILITY

As discussed in Section 2.0 of this report, the primary purpose of the West Isles Feasibility Study is to determine the feasibility of establishing a national marine park in the West Isles. Upon identifying and analysing the issues and concerns as recognized by Parks Canada, Tourism New Brunswick and the local public, the recommended management actions and programs as outlined in this report are assessed below in relation to the Feasibility Criteria.

10.1 Assessment of Feasibility Criteria

National Marine Park Policy

1) Criterion: That the operation, management and visitor use of a national marine park in the West Isles could be conducted in a manner consistent with the provisions of the draft National Marine Parks Policy.

   Assessment: Feasibility Conditional

   Discussion: In general, the proposed actions and management guidelines contained in this report are consistent with the draft National Marine Parks Policy. Issues related to specific aspects of the draft policy are discussed below.

Resource Protection and Conservation

2) Criterion: That the West Isles Study area adequately represents the biological, physical and oceanographic features of the Bay of Fundy marine region.

Assessment: Feasible

Discussion: Recent scientific studies have shown that the marine waters of the West Isles contain an excellent representation of those marine themes characteristic of the outer portion of the Bay of Fundy.

3) **Criterion: That the long term conservation of the marine resources in the proposed marine park area would be possible so as to maintain ecological processes, species diversity, productivity and abundance.**

Assessment: Feasible

Discussion: The long term conservation of the marine resources in the proposed marine park area would be possible if an effective cooperative management arrangement with other government agencies, DFO and DOT in particular, could be implemented to manage resources within the marine park boundary. Parks Canada has reached agreement in principle at the staff level with both DFO and DOT to a cooperative management framework for the proposed national marine park.

4) **Criterion: That the existence of possible threats to the natural environment of the area, particularly with regard to water quality, are minimal and could be retained at an acceptable and manageable level.**

Assessment: Feasible

Discussion: While there are potential threats to environmental quality in the West Isles area, none of these currently impact on the study area to any great

extent and the level of water quality in the West Isles remains high. This situation would appear to be manageable.

5) **Criterion: That the area has experienced minimum modification by man or, if significant modification has occurred, has high potential for restoration to a natural state.**

Assessment: Feasible

Discussion: The impact of man on the West Isles environment is evidenced primarily by the past and present activities associated with the commercial fishing industry. Small fishing villages distributed along the various shorelines, the many herring wiers throughout the area and the occasional sign of past mining or agricultural activity have modified the natural environment but not to the extent where its natural values have been compromised. Indeed, these modifications make a valuable contribution to the cultural attributes of the area and lend themselves well to interpreting the relationship between man and the sea.

6) **Criterion: That the conservation of all indigenous flora and fauna, and the protection of specific (rare, threatened and endangered) resources and habitat critical to their survival, could be accomplished within the proposed national marine park area.**

Assessment: Feasibility Conditional

Discussion: Further research is required to determine what species, if any, may be rare, threatened or endangered in the study area, and what their habitat requirements may be. Recent scientific research has indicated that the study area is located within an area of significant summer habitat for the endangered North Atlantic Right Whale, but the inclusion of only a very small part of that habitat was possible in this park proposal. Further protection of this habitat would require cooperation with DFO and other agencies responsible for whale management, monitoring and research. Important habitat for a number of other cetaceans, including the harbour porpoise, and finback, minke and humpback whales, as well as for many species of seabirds and raptors has been included within the proposed park boundary.

7) **Criterion: That the protection of significant historical, archaeological and cultural resources could be accomplished within the proposed national marine park area.**

Assessment: Feasible

Discussion: Those resources of historic, archaeological or cultural importance that have been recommended for inclusion within the proposed national marine park include historic and archaeological resources on the islands proposed for acquisition and shipwrecks and other marine historic resources that may lie below the surface. While there are legal questions regarding the ownership and management control over the latter

resources that have yet to be resolved with DOT and New Brunswick, the long term protection of these resources should be feasible.

8) Criterion: That the natural resources of the proposed national marine park could be managed so that man's activities would leave them unimpaired for future generations.

Assessment: Feasible

Discussion: It is quite feasible for the resources within a national marine park in the West Isles to be managed in a manner that would leave them unimpaired for future generations. Park facilities and visitor activities would be planned so as to minimize any potential disruption to park resources. With the continuing commercial fishery, the long term conservation of marine resources and their habitats is the prime management objective.

9) Criterion: That commercial fishing practices that are destructive to the seabed could be minimized.

Assessment: Feasibility Conditional

Discussion: This criterion relates particularly to dragging for scallops and groundfish within the West Isles study area and the impact it may be having on seabed communities. Neither the true extent of these fishing activities or the actual impact they may be having on the sea bottom are known with any great degree of certainty. Research from other locations on the

effects of these methods of fishing would indicate a potential for disruption of the seabed. Further research is required in the West Isles to determine the extent of the impact there.

Consistent with Section 2.3.6 of the draft National Marine Parks Policy, the following position has been adopted for the West Isles: "Parks Canada [would] work cooperatively with the Department of Fisheries and Oceans and the fishing industry to minimize indiscriminate methods of fishing and the use of gear which is destructive to the seabed. Where adverse effects on marine habitats and ecosystems are suspected, joint monitoring studies [would] be initiated to assess the extent of the problem. If significant effects are identified, Parks Canada [would] work closely with the Department of Fisheries and Oceans and the fishing industry in order to develop management solutions which are mutually acceptable. Such solutions [would] become part of the negotiated park fisheries management plan."

It would appear that the extent and relative value of these particular fisheries in the West Isles is not great and it is likely that mutually agreeable solutions could be reached.

10) **Criterion: That the commercial, recreational and domestic fisheries would be able to continue within a national marine park, and any potential conflicts between the fisheries and the purpose and objectives of a national marine park could be resolved to the satisfaction of all parties involved.**

Assessment: Feasibility Conditional

Discussion: There have been several issues raised during public consultation that relate to these fisheries and the management of a national marine park. We have gone to some length to provide policies and to propose mechanisms to attempt to resolve these issues as best as can be done within the bounds of this feasibility study. They will all require further discussion and negotiation with the affected parties, and may well have to rely on actual management experience in the field before viable solutions could be found. At this point in time, it would appear feasible that such solutions could be found and that they could be manageable if a park were established.

11) **Criterion: That the commercial marine fishery could be cooperatively managed with the Department of Fisheries and Oceans in accordance with the draft National Marine Parks Policy, while also complying with the management goals and objectives of the Department of Fisheries and Oceans, and the social and economic goals of the province of New Brunswick and the West Isles communities.**

Assessment: Feasibility Conditional

Discussion: Through several discussions with the Department of Fisheries and Oceans, mutual agreement has been obtained on the resource management guidelines which have been recommended for all natural resources of the West Isles and to the local commercial fishery, as are outlined in Section 5.0 of this report. As well, it

would appear feasible that a cooperative management arrangement between the two agencies could be reached as outlined in Section 7.0. The detailed terms of such an arrangement and of the resource management guidelines could be worked out at a later date and modified as required as more park management experience is obtained.

The results of Phase 2 public consultation will be necessary to determine the extent to which the recommendations in Phase 1 of the feasibility study are acceptable to the local communities.

12) Criterion: That the traditional patterns and requirements of navigation for the commercial fishery, commercial shipping and for other domestic purposes could be retained within a national marine park in conformity with overall park objectives.

Assessment: Feasible

Discussion: The traditional navigation patterns of commercial shipping would remain unaffected by the establishment of a national marine park and the administration of commercial shipping would remain with Transport Canada. The commercial fishing fleet would also retain its traditional navigation routes throughout marine park waters. Any regulations put into effect to control recreational boat traffic would have a minimal or no effect on traditional recreational boating patterns.

13) Criterion: That the settlement of any native claims in the proposed park area would not prevent the establishment of a national marine park.

Assessment: Feasible

Discussion: There are no known or anticipated native claims applicable to this area.

14) Criterion: That sport hunting could be discontinued within the proposed national marine park area.

Assessment Feasible

Discussion: Sport hunting for terrestrial mammals or for seabirds would not be permitted within a national marine park. This would have a negligible effect on hunting or trapping opportunities for mammals. The prohibition of hunting within the marine park area would also have a very limited impact on the winter seabird hunt.

15) Criterion: That significant renewable or non-renewable commercial resource use potential would not have to be foregone as a result of park establishment.

Assessment: Feasible

Discussion: There would appear to be no significant renewable or non-renewable resource use potential to be foregone as a result of park establishment.

16) Criterion: That the termination of any non-renewable resource exploration or development would be possible and at a reasonable cost.

Assessment: Feasible

Discussion: There is no known potential in the West Isles area for hydrocarbon development and the only two exploratory wells drilled in the Bay of Fundy have been dry holes. The extraction of sand and gravel from the shoreline of Passamaquoddy Bay is already prohibited under New Brunswick law. Past mining activity on some of the offshore islands has not found economically viable deposits and there has been no mining activity for many years. Therefore, there would be little or no costs associated with the termination of non-renewable resource exploration or development should a national marine park be established.

Public Understanding, Appreciation and Enjoyment

17) Criterion: That opportunities could be provided to enable Canadians to better understand and appreciate their marine heritage resources and the issues involved in their long term conservation/protection and use.

Assessment: Feasible

Discussion: The West Isles area offers ample opportunities for the provision of visitor facilities and services by Parks Canada or the private sector for the interpretation of the marine themes of the West Isles in such a manner as to increase visitor awareness and understanding of the marine environment and the

relationship between man and the sea. The provision of some opportunities would also require the cooperation and initiative of local fishermen as well as other members of the local communities. Tourism New Brunswick has also recommended several regional tourism facilities, most to be provided by the private sector, which would assist in engendering visitor appreciation, understanding and enjoyment.

18) **Criterion: That visitor services, facilities and programs could be operated and managed so as to minimize any potential disruption to local lifestyles.**

Assessment: Feasibility Conditional

Discussion: One of the most serious concerns raised by the local people during public consultation was the potential impact of the proposed park on their livelihood and lifestyle. These concerns arise primarily from the potential impact of increased boat traffic on the commercial fishery, and of higher levels of visitation generally on their lifestyle due to such factors as increased traffic congestion, crime and vandalism. The three visitor use options and the visitor use management guidelines have attempted to address these issues. Further public consultation would be required to determine their ultimate feasibility.

The three options would result in a different distribution of the economic and social impacts of park development. Option 1 would concentrate those impacts in the Letete area, whereas in Option 3, those impacts would be minimal in the West Isles area generally and

would occur in St. Andrews, but to a much lesser extent due to the existing infrastructure in that community. Option 2 would distribute those impacts more widely throughout the West Isles area. The issue of traffic congestion is closely related to the capacity of the existing Deer Island ferry system and whether or not this capacity would be increased. Visitor Use Option 2 would be to a great extent dependent on the expansion of the ferry system if it is not to cause inconvenience from increased traffic congestion.

Within the park, the visitor use management guidelines include provisions for the control of recreational activity on the water that may impact upon the commercial fishery. These provisions include the extensive use of boat tours that would operate according to a fixed schedule on designated routes, designated areas for SCUBA diving, controls on recreational boating, and sensitive facility location, all of which are oriented to minimizing any potential impact on the commercial fishery. The implementation of these controls would appear to be feasible.

19) **Criterion: That circulation of vessels within a national marine park could be managed to enable opportunities for safe public use and to minimize conflict between commercial and recreational uses.**

Assessment: Feasible

Discussion: As noted in Feasibility Criterion 12), commercial shipping and fishing navigation would continue and their traditional patterns of navigation

would be retained. Any controls on recreational boat traffic would be intended to minimize interference with the fishery and to promote public safety and environmental protection.

20) Criterion: That the impact of increased visitation to a national marine park in the West Isles on adjacent areas could be acceptable and manageable.

Assessment: Feasibility Conditional

Discussion: This has been addressed in Feasibility Criterion 18) above.

Land Acquisition

21) Criterion: That suitable lands are likely to be available for acquisition by negotiated settlement.

Assessment: Feasible

Discussion: Given the range of visitor use options and the small amount of land considered essential for acquisition, it is reasonable to assume that this criterion could be met even though the availability of specific parcels of land is not known.

Local Services and Infrastructure

22) Criterion: That the necessary services for accommodating and sustaining increased visitor demands, including accommodation and food services, an adequate transportation system, and water and sewage systems, could be provided, either by the public or private sector, at reasonable cost.

Assessment: A. Services (excluding transportation) - Feasible

Discussion: At present, the service infrastructure (accommodation, food services, water and sewage) in the region is adequate to support visitor requirements in the initial years of park establishment. As demand grows, the private sector would pursue development opportunities and provide the necessary facilities.

Assessment: B. Services (transportation) - Feasibility Conditional

Discussion: The establishment of a national marine park would result in increased demand on the Deer Island-Letete Ferry system which is already operating at full capacity during the peak season. The extent of this increased demand would be dependent on the visitor use option pursued but would be greatest under Option 2. Improvements to the ferry system would have to be considered. For the most part, the existing road systems could accommodate any increase in traffic demands. Improvements to the alignments of the East Quoddy Head and Green Point access roads would, however, be required. The feasibility of this criterion is conditional upon the availability of funds to finance these improvements.

<u>Park Development, Operations and Maintenance</u>

23) Criterion: That the costs of capital development of park facilities and services, and of their long term operation and maintenance would be reasonable.

Assessment: Feasibility Conditional:

Discussion: The approximate capital and operation and maintenance costs, as well as manpower requirements, have been calculated on the basis of the three visitor use options. The capital cost of park development would amount to approximately $14 million. Once the park is fully operational, annual operation and maintenance costs would range from approximately $760,000 to $1.3 million and would require a compliment of 26-31 person-years (PYs). The manpower requirements are quoted in PY equivalents, recognizing that some of the O&M positions could be put out to contract.

Whether or not these estimated costs are reasonable and would be provided in Parks Canada's budget would be decided by the federal Minister of the Environment, Cabinet and the appropriation of funds by Parliament.

Economic and Social Impacts

24) **Criterion: That the impact of park establishment on the social and economic conditions of the surrounding region would be beneficial.**

Assessment: Feasibility Conditional

Discussion: The economic and social impacts of establishing a national marine park in the West Isles are many and varied, with their type and distribution being entirely dependent on the different visitor use options. Section 8.2 describes what these impacts may be. Further public consultation in Phase 2 would be required to discuss these issues in more detail with the local public.

It would appear that the economic effects of park establishment would be beneficial, both on a provincial level and within Charlotte County. How much of the economic benefits would accrue locally would be dependent, to a certain extent, on the initiative shown by local residents to pursue opportunities in the private sector. However, certain benefits would be shown locally, both in the construction and operation phases, due to local employment and the local purchase of goods and services.

25) **Criterion: That opportunities would be available for local residents to find employment and participate in business opportunities related to the management and operation of the park.**

Assessment: Feasible

Discussion: It has been estimated that 100% of the construction labour requirements for park development and approximately 70% of the operation and maintenance positions for the marine park could be obtained from the Charlotte County labour force.

Economic opportunities would also be available for local residents to pursue through private entrepreneurial initiative in such areas as accommodation and food services, boat tours, SCUBA diving guides, fishing excursions, demonstration wiers, and equipment rentals. Training programs would be available to assist in this regard.

The number of direct and indirect jobs created as a result of park establishment would make a significant contribution to reducing local unemployment levels.

Cooperative Management

26) Criterion: That a workable and efficient management structure could be arranged between Parks Canada and other federal and provincial agencies to facilitate the cooperative management of coastal and marine resources and activities in and adjacent to the national marine park.

Assessment: Feasible

Discussion: It would appear feasible to be able to reach mutually agreeable arrangements with each of DFO and DOT for the cooperative management of a national marine park in the West Isles (see Section 7.0). The terms and conditions of these agreements could be worked out at a later date when the specific requirements of each agency would be clearer. On the broader regional level, it would not appear necessary to enter into formal agreements with other agencies, but to establish the necessary liaison with them to ensure that the marine environment of the park is not impaired by external environmental influences and to monitor the impact of the park on the surrounding region.

11.0 CONCLUSION AND RECOMMENDATIONS

The conclusion of Phase I of the West Isles Feasibility Study is that, from the perspective of Parks Canada and Tourism New Brunswick, the proposal to establish a national marine park in the West Isles is technically feasible. There are, however, a number of feasibility criteria that have yet to be completely satisfied as is apparent by the number of "Feasibility Conditional" assessment statements in the above discussion. Some of these unknowns will be clarified through further study and discussion with other government agencies. Most, however, will not be clarified without further public consultation, and still others will likely require actual park management experience before suitable answers are found. The results of Phase I, as documented in this report, present a reasonable basis upon which to undertake further consultation with the public and to work toward a proposal satisfactory to all concerned.

This study has been undertaken based on the draft National Marine Parks Policy. This draft policy was originally developed by Parks Canada in 1983 and has been the subject of national consultations involving other governments, interested groups, and individuals including representatives of the West Isles area. An approved policy for Canada's national marine parks will be necessary as a basis for further public consultations on a national marine park proposal in the West Isles area.

In the light of these general conclusions, the following recommendations are made.

Recommendations:

1) That Phase II public consultation for the West Isles Feasibility Study not proceed until a National Marine Parks Policy for Canada is approved by the federal government.

2) That the report of Phase I of the West Isles Feasibility Study be made available to the public, particularly the residents of coastal Charlotte County, for their information and consideration.

3) That once a National Marine Parks Policy is approved, Parks Canada and Tourism New Brunswick proceed with Phase II of the feasibility study to enable the public to express their opinions and concerns regarding the proposal for a national marine park.

4) That an independent review board be appointed jointly by the two governments to: i) conduct the public consultations on the feasibility of a national marine park in the West Isles area; ii) to report to the governments on the results of the consultations; and iii) to recommend further action.

SELECT BIBLIOGRAPHY

Airphoto Analysis Associates Consultants Ltd., 1976. Fundy Isles Region Tourism Industry Development Plan, prepared for New Brunswick Tourism, Fredericton, N.B., 203p.

Alexander, L. John, 1982. Legal Provisions for Linked Management, Technical Background Report - Phase II, Fraser River Estuary Study, Surrey, B.C., 39p.

Anthony, V.C. and J.F. Caddy (eds.), 1980. Proceedings of the Canada - U.S. Workshop on Status of Assessment Science for N.W. Atlantic Lobster (Homarus americanus) Stocks, Can. Tech. Rept. Fish Aquat. Sci. 932, 186p.

Barto, Martha Ford, 1975. Passamaquoddy: Genealogies of West Isles Families. Lingley Printing Company Ltd., Saint John, N.B.

Baxter, M.D. and G. Julien, 1977. A Sanitary and Bacteriological Survey, Campobello Island, N.B. Shellfish Area N.B. 18. Environmental Protection Service, Halifax, N.S.

Bishop, Jennifer, 1982. Partridge Island: Variability Among Early and Middle Woodland Shell Midden Sites. Unpublished M.A. Thesis, Department of Anthropology, McMaster University, Montreal.

Black, David W., 1983. What Images Return: A Study of the Stratigraphy and Seasonality of a Small Shell Midden in the West Isles of New Brunswick. Unpublished M.A. Thesis, Department of Anthropology. McMaster Unitersity, Montreal.

Black, David W., 1984. An Introduction to the Archaeology of Bliss Island, New Brunswick. Archaeological Branch, Department of Historical and Cultural Resources, Fredericton, N.B.

Brown, K., 1982. Commercial Fishing and National Marine Parks, Vols. I and II. Natural Resources Division, National Parks Branch, Parks Canada, Ottawa, 393p., 78p.

Caddy, J.F., 1973. "Underwater Observations on Tracks of Dredges and Trawls and Some Effects of Dredging on a Scallop Ground". J. Fish. Research Board, Canada 30: 173-180.

Caddy, J.F., R.A. Chandler and D.G. Wilder, 1974. "Biology and Commercial Potential of Several Underexploited Molluscs and Crustaceans of the Atlantic Coast of Canada". Proc. Government - Industry Meetings on the Utilization of Atlantic Marine Resources, Feb. 5-7, p. 67-106.

CCREM, 1978. Proceedings of Shore Management Symposium, Canadian Council of Resource and Environment Ministers, Victoria, B.C., 465p.

Christie, D.S., 1983. "Birds". In: Marine and Coastal Systems of the Quoddy Region, New Brunswick. M.L.H. Thomas ed. Chapter 14, pp. 215-229. Department of Fisheries and Oceans, Ottawa.

Department of Fisheries and Oceans, 1983. Watching Whales. Communications Directorate, Ottawa.

Environment Canada, 1975. Land Use Programs in Canada: New Brunswick, Lands Directorate, Ottawa, 48p.

Environment Canada, 1981. Submission to Senior Management Committee on Marine Environmental Quality, November 18, 1981, Halifax, 32p.

Environment Canada, 1982. Submission to Senior Management Committee - The Marine Environment: The Role of Environment Canada and a Strategy for its Implementation, September 14, 1982, Halifax, 33p.

Fraser River Estuary Study Planning Committee, 1982. "A Living River by the Door" - A Proposed Management Program for the Fraser River Estuary, Surrey, B.C.: Fraser River Estuary Study, March, 1982.

Gaskin, D.E. and G.J.D. Smith, 1979. Observations on Marine Mammals, Birds and Environmental Conditions in the Head Harbour Region of the Bay of Fundy. Fisheries and Marine Services, Tech. Rep. No. 901. St. Andrew's N.B.

GBRMPA, 1983. The Great Barrier Reef Marine Park Authority, Annual Report 1982-83, Commonwealth of Australia, 1983, Canberra, 128p.

Grey, R.W., D.L. Morantz and J.D. Carmeron, 1980. Size, Distribution, and Significance of the Commercial By-catch of Atlantic Salmon (Salmo salar) in mainland Nova Scotia. Can. Ms. Rept. Fish Aquat. Sci. No. 1583, 39p.

Hardie, D. and Jennings, S., 1981. National Marine Park Concept, West Isles, New Brunswick Pilot Study, Vols. 1 and 2. National Parks Systems Planning, National Parks Branch, Parks Canada, Ottawa, 109p., 87p.

Harrison, P. and J.G. Michael Parkes, 1983. "Coastal Zone Management in Canada", Coastal Zone Management Journal, Vol. II, no. 12, pp. 1-11.

Hunter and Associates, 1982. Fundy Coastal Zone Study, prepared for New Brunswick Department of Natural Resources, Fredericton, N.B., 290 pages plus atlas.

International Union for Conservation of Nature, 1981. World Conservation Strategy. IUCN. 1196 Gland, Switzerland.

James Dobbin Associates Ltd., 1981. Visitor Use of Marine Parks: Issues and Options, prepared for National Parks Branch, Parks Canada, Ottawa, 144p.

Johnston, D.M., A.P. Pross, I. MacDougall, 1975. Coastal Zone Framework for Management in Atlantic Canada, Institute of Public Affairs, Dalhousie University, Halifax, 249p.

MacKay, A.A., 1976. A Comparative Resource Analysis of the Deer Island and Grand Manan Archipelagos, Bay of Fundy, Marine Research Associates, final report prepared for Parks Canada, 183p.

N.B. Department of Fisheries, 1983. Fisheries Statistics, Statistics and Market Intelligence Unit, Fredericton, N.B.

Parks Canada, 1985. National Marine Parks Final Draft Policy, May 1, 1985. National Parks Systems Division, National Parks Branch, Parks Canada, Ottawa, 29p.

Salm, R.V. and J.R. Clark, 1984. Marine and Coastal Protected Areas: A Guide for Planners and Managers, International Union for the Conservation of Nature and Natural Resources (IUCN), Gland, Switzerland, 302p.

Scarratt, D.J., ed., 1979. Evaluation of Recent Data Relative to Potential Oil Spills in the Passamaquoddy Area, Fisheries and Marine Service Tech. Report No. 901, Department of Fisheries and Oceans, 107p.

Siminoff, Laura Avis, 1978. Traps, Nets and Networks: An Anthropological Study of a New Brunswick Fishing Community. National Library of Canada, Ottawa.

Smolowity, R.J., 1978. "Lobster, Homarus americanus, trap design and ghost fishing". Mar. Fish. Rev. 40 (5-6): 2-8.

Thomas, M.L.H., ed., 1983. Marine and Coastal Systems of the Quoddy Region, New Brunswick, Canadian Special Publication of Fisheries and Aquatic Sciences 64, Department of Fisheries and Oceans, 306p.

Tourism New Brunswick, 1982. A Tourism Sector Strategy for New Brunswick, Tourism New Brunswick, Frederictor, N.B., 120p.

Wilder, D.G., 1943. The Effect of Lath Spacing and Size of Fishing Ring on the Catch of Lobster Traps. Fish. Res. Bd. Canada Prog. Rep. Atl. Coast Stn. 34:22-24.

Wilder, D.G., 1945. Wider Lath Spaces Protect Short Lobsters. Fish. Res. Bd. Canada, Atl. Biol. Stn. Circ. 4, 1p.

Wildsmith, Bruce H., 1982. Aquaculture: The Legal Framework, Edmond-Montgomery Ltd., Toronto, 313p.

Wolfe, L.D.S., 1982a. Organizational Options for Linked Management, Technical Background Report - Phase II, Fraser River Estuary Study, Surrey, B.C., 78p.

Wolfe, L.D.S., 1982b. A Linked Management System, Technical Background Report - Phase II, Fraser River Estuary Study, Surrey, B.C., 149p.

APPENDIX I

PROPOSED PARK PURPOSE AND OBJECTIVES STATEMENT

Every national park or national marine park in Canada has a park purpose and objective statement to explain what the park is to accomplish and to provide the guidance for its long term management. The statement being recommended for the West Isles is as follows.

PARK PURPOSE

The purpose of the proposed national marine park in the West Isles would be to protect and conserve for all time this unique marine environment, with the richness of its island archipelago and natural heritage resources that are highly representative of the outer portion of the Bay of Fundy Marine Region, and to encourage public understanding, appreciation, and enjoyment of the area's natural and cultural heritage by present and future generations of Canadians and other visitors. This purpose would be achieved in cooperation and harmony with the local communities.

PARK OBJECTIVES

PROTECTION AND CONSERVATION OF NATURAL AND CULTURAL HERITAGE RESOURCES

Natural Heritage

To protect and conserve the productive and diverse marine ecosystem of the West Isles as a representative example of the Bay of Fundy Marine Region in view of the following:

a) the West Isles area, and Head Harbour Passage in particular, is one of the major centres of biological productivity in the Bay of Fundy;

b) the unique assemblage of oceanographic phenomena has produced a marine community with a wide variety of habitat types and of high species diversity and concentrations, so high as to be unique along the New Brunswick shoreline;

c) during the months of July, August, and September virtually all the species of marine life found in the Bay of Fundy are found among the West Isles, especially in Head Harbour Passage;

d) the surface and subsurface configuration of the archipelago, with its extreme variations in water depth, combined with some of the highest tides in the world, have produced an unusual mosaic of oceanographic phenomena including unusually high current velocities, extensive vertical mixing, rips, upwellings, a variety of coastal erosional and depositional features and an interesting and aesthetically pleasing seascape;

e) the area supports a viable and productive commercial fishery of significant importance to the local and provincial economies and which would continue to operate within the proposed national marine park.

Cultural Heritage

To protect and conserve the significant cultural heritage resources associated with the occupation by prehistoric and historic peoples, and features representing early European trading, fishing, navigation, and shipbuilding activities.

Understanding, Appreciation, and Enjoyment

To provide opportunities for the understanding, appreciation, and enjoyment of the natural and cultural heritage resources and processes associated with the unique natural and cultural mosaic of the West Isles.

To interpret the natural and cultural history themes of the West Isles area in such a way that the visitor would obtain a full appreciation and understanding of the richness and diversity of the marine resources, of the inter-relationship between man and the sea, and of the role the West Isles play in the ecology and economy of the Bay of Fundy.

To engender in the park visitor an appreciation and understanding of the role of the national marine parks system and of the proposed national marine park in the West Isles within that system.

To provide facilities and services essential to public use, appreciation and enjoyment of the marine park, and to encourage a greater awareness and understanding of the Passamaquoddy Bay region surrounding the Marine Park.

Regional Integration

To integrate and coordinate the protection and management of the proposed national marine park in the West Isles with the surrounding region in a manner that provides positive social and economic benefits.

To integrate the facilities and services for visitor use in the proposed national marine park with a tourism development plan for the Passamaquoddy Bay region.

To provide opportunities for the public of the immediate and adjacent regions to be involved in the planning and management of the proposed national marine park.

Cooperative Management

To manage national marine park resources cooperatively with other federal and provincial government agencies, in particular with the federal departments of Fisheries and Oceans, and Transport, each of which would retain their traditional jurisdictions over the management of fisheries and fish resources, and marine transportation, respectively.

To maintain regular liaison with other federal and provincial government agencies involved in the management of the regional coastal and marine environment to ensure that park resources are not imparied and to monitor the impact of the park on the surrounding region.

APPENDIX 2

A DEFINITION OF CONSERVATION

The term conservation can mean many different things to many people. In the context of national marine park management, the following definition of conservation has been adopted by the draft National Marine Parks Policy in accordance with the World Conservation Strategy.

Conservation is defined here as: the management of human use of the biosphere so that is may yield the greatest sustainable benefit to present generations while maintaining its potential to meet the needs and aspirations of future generations. Thus conservation is positive, embracing preservation, maintenance, sustainable utilization, restoration, and enhancement of the natural environment. Living resource conservation is specifically concerned with plants, animals and microorganisms, and with those non-living elements of the environment on which they depend. Living resources have two important properties the combination of which distinguishes them from non-living resources; they are renewable if conserved; and they are destructible if not.

Living resource conservation has three specific objectives:

to maintain essential ecological processes and life-support systems (such as soil regeneration and protection, the recycling of nutrients, and the cleansing of waters), on which human survival and development depend;

to preserve genetic diversity (the range of genetic material found in the world's organisms), on which depend the breeding programmes necessary for the protection and improvement of cultivated plants and domesticated animals, as well as much scientific advance, technical innovation, and the security of the many industries that use living resources;

to ensure the sustainable utilization of species and ecosystems (notably fish and other wildlife, forests and grazing lands), which support millions of rural communities as well as major industries.

(World Conservation Strategy, 1980)

APPENDIX 3

Summary of Major Canadian Federal Legislation Pertinent to the Administration and Management of National Marine Parks

Department	Legislation	Activity Affected
1. Environment	1. Canada Water Act	- amenity considerations - recreation and human health protection - water resource management - water quality management areas
	2. Ocean Dumping Control Act	- dumping of wastes at sea by ship
	3. Environmental Contaminants Act	- introduction of certain deleterious substances into the environment - environmental emergency planning and response
	4. The Clean Air Act	- introduction of harmful substances into the air
	5. Migratory Birds Convention Act	- activities deleterious to birds on land and sea
	6. The Fisheries Act (Section 33)	- introduction of deleterious substances into waters frequented by fish
	7. The Boundary Waters Treaty	- International Joint Commission - Canada and U.S. activities affecting international waters of boundary interest
	8. The Government Organization Act	- coordination of programs affecting environmental quality

Department	Legislation	Activity Affected
		- federal projects, programs and activities affecting the quality of the natural environment
	9. Canada Wildlife Act	- encouragement of wildlife protection - measures to protect endangered species
	10. National Parks Act	- establishment, management and operation of a system of national parks
2. Fisheries and Oceans	1. The Fisheries Act	- fishing activities - fisheries management - fish habitat management - search and rescue - environmental emergency planning and response
	2. The Government Organization Act	- coordination of policies and programs respecting oceans
	3. The Fishing and Recreational Harbours Act	- provision of fishing and recreational harbours - Marina Policy Assistance Program - Tourist Wharf Program
	4. Territorial Seas and Fishing Zones Act	- international activities in Canadian waters
3. Transport	1. Canada Shipping Act	- ship discharges - ship borne pollution - safety of navigation - receiver of wreck - emergency planning and response - search and rescue
	2. Navigable Waters Protection Act	- interference with navigation - wreck

Department	Legislation	Activity Affected
	3. Transportation of Dangerous Goods Act	- transport of toxic, hazardous and dangerous goods
4. Energy, Mines and Resources	1. The Oil and Gas Production and Conservation Act	- pollution of marine waters from offshore oil and gas exploration and production activities
5. National Defence	1. Defence Act	- pollution surveillance and monitoring - assisting search and rescue operations - resource survey assistance
6. External Affairs	1. The Boundary Waters Treaty	- International Joint Commission
	2. Canada - U.S. Agreement	- Roosevelt-Campobello International Park
7. Solicitor General (RCMP)	1. Criminal Code	- all offences under the Criminal Code
	2. Other federal and provincial statutes	- other activities as per federal and provincial statutes enforced

Summary of New Brunswick Legislation Pertinent to the Administration and Management of National Marine Parks

Department	Legislation	Activity Affected
1. Natural Resources	1. Mining Act	- exploration for and development of mineral resources - includes seabed mining in Bay of Fundy
	2. Oil and Natural Gas Act	- exploration for and development of oil and natural gas - includes the offshore in the Bay of Fundy
	3. Quarriable Substances Act	- exploration for and development of all quarriable substances - includes shore zone 300 m. below and above high water
	4. Crown Land and Forests Act	- management of surface and subsurface Crown lands and forests - includes seabed under Bay of Fundy
	5. Fish and Wildlife Act	- management of terrestrial wildlife and co-management of inland recreational fisheries
2. Fisheries	1. Fisheries Development Act	- financial assistance and training for fishermen - encourage development of fisheries industry
	2. Irish Moss Act	- licences the harvesting of Irish Moss
3. Environment	1. Clean Environment Act	- water resource management planning - control and abatment of water pollution

Department	Legislation	Activity Affected
4. Municipal Affairs	1. Community Planning Act	- municipal and regional land use planning - land use controls
5. Tourism	1. Tourism Development Act	- sets standards for tourist accommodation and other establishments - provides for information centres
	2. Parks Act	- creation, management and operation of a provincial parks system
6. Historical and Cultural Resources	1. Historic Sites Protection Act	- recognizes and/or gives protected site status to historic resources of provincial significance